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In view of an increase in our paper ration from the beginning of November, we are now prepared to accept a limited number of new home subscribers. The arrangements for accepting all new overseas subscriptions remain unchanged

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HISTORY OF THE BRITISH RAILWAYS DURING THE WAR 1939-45

by R. BELL, C.B.E.

with a foreword by Sir William Wood,
President, London Midland & Scottish Railway

THE RAILWAY GAZETTE
33, TOTHILL STREET, WESTMINSTER, S.W.1

Transport Nationalisation to be Fought

THE King's Speech at the opening of the new session of Parliament included two major nationalisation projects. Among the legislation outlined are Bills providing for bringing into national ownership both inland transport services and the electricity supply industry. Neither iron and steel or gas nationalisation was mentioned. No indication has yet been given as to the terms of the transport nationalisation scheme, but the understanding is that railways, long-distance road haulage, docks and canals, are to be acquired by the State, and passenger road transport, the London Passenger Transport Board, and coastwise shipping are to remain in private or municipal hands, but brought within the co-ordinated scheme by Act of Parliament. It has been made clear already that the railways and the road transport interests are to resist nationalisation, and in the House of Commons on Tuesday Mr. Churchill promised "the most strenuous and uncompromising" opposition to the nationalisation Bills. It is believed that efforts will be made to introduce the Bill relating to transport before Christmas; in any event it is assured of high priority in the Government's programme.

Helping Old Customers or New?

Ever since the present Government took office, no subject has been more stressed than the vital importance of our export trade. For the nine months to the end of September, 333 British-built locomotives were exported. The value of these shipments was £5,207,420, which was considerably in excess of the first nine months of 1938, when the value of the 135 locomotives shipped was £1,183,185. As is well known, the British railways are suffering from a shortage of locomotives and too great a percentage of engines undergoing or awaiting repair. We are intrigued to read the ingenuous suggestion by a financial writer that, if the private locomotive builders now working for export could take over part of the heavy repairs now falling on the railways, it would be of utmost value. From the home railway point of view, no doubt it would. But taking the longer view, there is another side to the question. For fifty years and more it has been a grievance with British builders of locomotives and rolling stock that they have been handicapped as compared with American and Continental builders in having no assured home market consequent on the British railways' policy of building in their works such a large percentage of their locomotives and rolling stock. After seven years of war, overseas railways are in much the same plight as those at home. If the British builders were now to break faith with their overseas customers by postponing deliveries, it would not soon be forgotten, and have a very adverse effect in days to come.

Locomotive Makers Appoint Overseas Representative

The British Locomotive Manufacturers' Association is an old-established body with a progressive policy, and because the welfare of its members is largely bound up in the export trade, its decision to appoint an overseas representative is of wider interest than to the industry which he will serve. Elsewhere, we reproduce a portrait and give some biographical details of Mr. G. M. Vibart, O.B.E., A.M.I.Mech.E., who is to fill this post. The appointment arises from the determination of British locomotive manufacturers to maintain and increase their export trade in all available markets, and has been made at a time when the industry is committed some way ahead with contracts, the execution of which were delayed by the war, and in fulfilling new orders, including locomotives for the home railways. Replenishment of order books has not induced complacency in the locomotive industry; in recognising that their future prosperity will depend largely on overseas markets, the locomotive builders have resolved to have their share of the available business. Mr. Vibart is a Swindon-trained locomotive man, and has had considerable experience abroad. His visits overseas will be made in the interests of the British locomotive industry as a whole, and with a view to establishing personal contacts which will lay the foundations of continued and increasing export orders for a British industry which has profited more than some from the hard lessons of depression.

The "Profit Motive" versus the "Present Motive"

Mr. G. R. Strauss, Parliamentary Secretary to the Ministry of Transport, seems to think that, whatever may be right for general industry, transport is different, for, as was recorded in our last week's issue, he told members of the Institute of Transport that it was desirable that public utilities should be motivated by the national interest "and not by private profit." A little later he rejected the efforts which had been made to correlate rail and road rates because it might result in substantial increases in rates for low-grade traffic. Perhaps Mr. Strauss would prefer that these traffics should receive a present of lower rates at the expense of traffics which he, or his more austere-minded Government colleagues, might consider less essential. The cloven hoof already is appearing. If the "profit motive" is removed and the "present motive" installed in its place, the system will be expanded speedily to make "presents" to favoured industries and sections of the public at the expense of the taxpayer. No doubt one "present" would be free travel for Members of Parliament, and it would then be a likely development to include all civil servants above a certain grade.

Electric Working at L.N.E.R. Termini

In his presidential address to the Railway Students' Association, of which a summary is given elsewhere in this issue, Sir Charles Newton, Chief General Manager, L.N.E.R., discussed the proposals of the County of London Plan, 1943, as they affect his company's termini. He stated several practical objections to the proposed separation of main-line and suburban traffic at Liverpool Street into separate stations, but said that the diversion of some suburban traffic to underground lines, which will come into effect in any case when the Central Line extension is opened, would permit a minor rearrangement of facilities there, conducive to the convenience of passengers. If all trains at Kings Cross and Liverpool Street ultimately were to be electrically-hauled, both stations might be reconstructed on a two-storey plan, with the concourse at street level and the platforms in the basement. The construction of a new satellite town at Stevenage in any case would make electrification at Kings Cross essential, and he assumed the conversion of the G.N.R. line between London and Hitchin, including the Cuffley Loop, within the next seven or eight years.

The Peruvian Corporation Limited

For the year ended June 30, 1946, gross revenue from the railways and steamers operated by the Peruvian Corporation Limited amounted to £1,721,855, an increase of 7.7 per cent. This increase was due to some extent to higher rates, for the total freight traffic carried was only slightly higher, while a small decline occurred in passenger traffic. As a result of the increased cost of materials, wages, social legislation, and provision for renewals, the company's expenditure rose sharply from £1,251,191 to £1,481,865. The balance carried to net revenue account fell accordingly from £359,074 to £257,152. A summary of the results of railway and lake steamer working is given below:—

	Gross Receipts	Working Expenses	Net Receipts
	£	£	£
Central Railway of Peru	766,754	686,613	80,141
Southern Railway of Peru	644,310	536,237	108,073
Other Railways	232,491	207,474	25,017
Lake Steamers	78,300	51,541	26,759
Total, 1945-46	1,721,855	1,481,865	239,990
1944-45	1,590,373	1,251,191	339,181

The programme of re-equipment of the railways operated by the corporation is now well under way; six new locomotives for the Central Railway have now been shipped to Peru, and four more for the Southern Railway will be sent out from this country during the current year. The bulk of the programme will be spread over several years. At the present time salaried employees of the corporation are entitled to one month's salary for every year of service after leaving the corporation's employment. A Project of Law is now before Congress in Peru for increasing the compensation of wage earners in similar circumstances from two weeks' to one month's pay for each year of service. If this law is passed, it will add materially

to the already high annual cost of social legislation which has to be borne by the corporation.

Indian Railway Facts and Figures

Elsewhere in this issue we review an attractive and profusely-illustrated brochure entitled "Full Steam Ahead." It outlines the problems, work, and future plans of the Indian Government Railways, and mentions several unusual facts and figures. For instance, it is remarkable that in an almost entirely agricultural sub-continent, one person in every 400 should be a railwayman, and that one in every 100 looks to the railways for a livelihood. As the total population is nearly 400 million, there are, presumably, nearly a million railwaymen and four millions dependent upon the railways. A less impressive fact, perhaps, is that 2½ million tickets are issued daily. Some idea of the rapid development of production of articles of Indian origin required by railways is given by the increase in value of local purchases from an average of just over £7 million a year during the decade ended 1941, to £15½ millions in 1944. The most unexpected fact mentioned in the brochure is, probably, that in this mainly agricultural country, 40 per cent. of the total ton-mileage handled by Indian railways is coal, requiring over a million wagon loads to carry it in 1944-45; grain and pulses required less than two-thirds of this number.

Wartime Achievements in India

Indian railway coal traffic referred to above reminds one that every ton of coal consumed by North-Western Railway locomotives has to be carried on an average well over 1,000 miles by rail from the Bengal coalfields. Small wonder, therefore, that fuel oil, though it has to be imported, is used largely on the Karachi Division of that system, as, coming by sea from the Persian Gulf, it requires little or no rail haulage and can compete economically with coal. Among the notable wartime developments on Indian railways may be mentioned that passenger-mileage in the year before the war totalled 18,743 millions, whereas in 1944-45 it had more than doubled at 38,783 millions, despite the fact that passenger train services had been reduced by 37 per cent. To carry this greatly increased passenger traffic, locomotives were called upon to haul, on an average, 50 per cent. more coaches on each train. Incidentally, the Fighting Services, which required only 29 special trains to run 8,000 miles on an average each month before the war, needed no fewer than 920 such trains to run a million miles monthly in wartime. Claimed to be a world record, one railway registered an average of 95.4 wagon-miles per wagon-day on its metre-gauge section in a recent month.

Cook's Continental Timetable

To all interested in the restoration of international travel, the publication on November 5 of the first post-war edition of *Cook's Continental Timetable* marked a welcome re-appearance. This publication was begun in 1873, and for 67 years was issued regularly, even during the whole of the 1914 war period, when it was the only foreign timetable appearing in this country. It was suspended in 1939, and now begins its 68th year of publication after a gap of seven years. The policy adopted is essentially that of a summary timetable (without intermediate details of local interest) as it is designed as a time-saver to commercial travellers, holiday-makers, statesmen, newspaper editors, and others who have little time for lengthy inquiries before or during their travels; Gladstone was among the earliest to express appreciation of its value. It was the first English timetable to adopt the twenty-four-hour system for all the railway services of the Continent. The present Editor, Mr. H. V. Francis, appears to have done his work well in collecting and collating details not only of the vast network of European train services, but also those of the Balearic Isles, Egypt, the Sudan, Transjordan, Iraq, Persia, and Morocco. Germany is a noteworthy omission, excepting two through services which enable Berlin, Stuttgart, and Munich to appear in the index. The timetable lists more than 750 routes, and gives the latest information about passports, visas, foreign exchange rates, postal services, and so forth. Its price is 5s.

Disquieting Railway Position

IT is most unfortunate that, eighteen months after the cessation of hostilities, all the four main-line railway companies are receiving numerous complaints regarding train services. The reasons for this unsatisfactory position are not generally known, and the L.M.S. has therefore circulated a memorandum covering its principal difficulties so that the public may understand the reason why it is not able to obtain the service it has a right to expect. The facts made public by the L.M.S.R. apply generally to all the main-line companies, and they reveal what the L.M.S.R., in a statement reproduced on page 552, describes as a disquieting position for the coming winter. No doubt this disclosure will be seized upon by our pro-nationalising politicians as evidence in favour of their desires. But recent experiences make it more likely that nationalisation at the present juncture would merely result in making "confusion worse confounded."

At the outbreak of war the railway machine generally was at a high state of efficiency, and it was possible to drive it at full speed throughout the war years with the minimum of attention to maintenance and repairs. At the close of hostilities the work of overtaking the arrears of maintenance was taken in hand very energetically, but, 18 months later, the companies are still grappling with the arrears of maintenance and new construction. External difficulties now threaten to make it impossible for them to complete the work within any reasonable period of time, and the L.M.S.R. states that the limit to which repairs can safely be deferred has practically been reached.

So far as the L.M.S.R. track is concerned, the normal maintenance and signalling costs £12 millions a year at present prices, and some £14 millions of work is in arrear. To restore the line to its proper condition requires an expenditure of £26 millions in the next twelve months, but, even if sufficient materials and labour were available—which they are not—the work could not be accomplished without shutting busy lines down for extensive repairs. With the track in this poor condition, speed restrictions have had to be imposed for safety reasons, and as the arrears of maintenance increase, many more delays to trains will result. Further, if, as now expected, the railways are able to obtain only something like half the wooden sleepers they require in 1947, a wholesale slowing down of train services is inevitable.

As to rolling stock, the number of locomotives out of service for repairs is much higher than it should be, and the general condition of engines is unsatisfactory, so that the number of locomotive failures in traffic is increasing, causing further delays to trains. The poor quality of the coal now being supplied to the railways is an additional cause of delays to trains, for many cases are occurring daily of time being lost in running owing to engines being short of steam. Moreover, the quantity of coal is as unsatisfactory as its quality, and the railways now have only just over a week's supply in stock compared with the normal level of three weeks' supply, which is regarded as essential. It is clear that if fog becomes sufficiently prevalent to prevent or retard the movement of locomotive coal, the consequences will be serious.

As to carriages, the L.M.S.R. has 1,840 less than before the war, although the present traffic is greater, and the prospects of obtaining the necessary materials for overtaking the arrears are far from promising. The position of the L.M.S.R. (and all companies) in regard to wagons is even more difficult, for, of the pool of railway and requisitioned privately owned wagons, no less than 175,000 are standing idle waiting repair. The L.M.S.R. repair organisation is working at full speed, so far as the supply of materials permits, but because the wagons could not be properly maintained during the war, they are deteriorating faster than they can be repaired.

Turning to the question of the winter train service, the L.M.S.R. points out that this was worked out many months ago to incorporate numerous accelerations and additional trains, but it was quite impossible then to foresee the present difficulties. A further factor was the withdrawal of the Essential Work Order from the railways at the end of August last, which has resulted in over 6,000 men leaving the L.M.S.R. service. The company has been badly hit in the London and Birmingham areas, and great difficulty is being experienced in obtaining houses or billets for staff. In London alone, the L.M.S.R. recently lost over 600 experienced operating staff in seven weeks.

The L.M.S.R. experience is similar to that of other companies, and it is fairly common knowledge that the L.N.E.R. has found it necessary to impose very extensive restrictions on the acceptance of traffic, which restrictions are interfering with production in certain areas. This course has been necessary because of the acute shortage of locomotive power, and the G.W.R. and Southern companies also are finding it very difficult to meet the demand for engines. In the case of the L.N.E.R., the percentage of engines under and awaiting repair is abnormally high, and the general condition of the serviceable engines leaves much to be desired. The company has placed large orders with private builders for locomotives, but deliveries are not meeting requirements.

The G.W.R. and Southern companies also are experiencing great difficulty in obtaining sufficient material for their repair work; more labour is required; and more and better coal. So far as the 175,000 wagons waiting repair are concerned, we understand that a large proportion requires heavy repairs, and it is suggested that steps might well be taken by the Government to obtain the assistance of Government factories and wagon-building firms before the position becomes more acute. But they, too, are short of manpower. Altogether, the picture is disturbing, despite mutual co-operation, but it may be taken that they will continue to co-operate in providing the best service possible in the difficult circumstances.

* * * *

Government's Nationalisation Policy

AT the anniversary luncheon of the Institute of Transport, on November 5, Mr. G. R. Strauss, M.P., Parliamentary Secretary to the Ministry of Transport, discussed what he claimed were certain basic and inescapable economic factors affecting the future of British transport. He recalled the square deal campaign and the recommendations of the Transport Advisory Council in 1939 which were designed to enable the railways to build a new and simpler rates structure within five years and thus facilitate agreement between all forms of transport. These recommendations, he claimed, were capable of many interpretations, and he argued that any tribunal would have been faced with an impossible task in determining the reasonableness of charges based on the many factors which the Council considered should be taken into account.

He then recalled that Lord Leathers, when Minister of Transport, had indicated that the proposals in themselves would not solve the problem of road-rail co-ordination and had expressed the view that some more radical solution must be found. Mr. Strauss was careful to avoid mentioning that the Government then in office accepted the proposals in principle, and that, but for the outbreak of war, it would have introduced the necessary legislation in 1939-40. Nor did he mention that neither Lord Leathers nor any subsequent Minister of Transport had made any public pronouncement as to the best way of securing co-ordination of rail and road services. On the other hand, early in 1945 the railways resumed their discussions with the Road Haulage Association and, as the result, produced in July last joint proposals for the co-ordination of road and rail freight transport. Mr. Strauss criticised this scheme on the ground that it gave no indication of the road factors on which the rates structure is to be based; it did not explain how the reasonableness of road rates was to be judged, or what the correlation of road and rail rates really meant. He claimed it was impossible to frame a satisfactory road rate structure which would cover road hauliers as they now exist, and argued that a railway rates structure correlated with road rates would involve drastic changes in the railway rates system which might be contrary to the national interest—a point which was fully dealt with in the railways' booklet: "British Railways and the Future."

Finally, he claimed that the necessity for the correlation of rates would disappear if road and rail transport ceased to remain financially separate, and that, if the separate financial entities were to disappear, it would be possible to "devise a more satisfactory rates structure based on the needs of industry and the travelling public." In this respect his criticism of the terms used by the railways and road interests applies equally to his own, for he was careful not to attempt any detailed explanation of the factors on which such a structure would be based. Mr. Roger Sewill, Director of the Road

Haulage Association, deals specifically with this point in a statement on page 561. Mr. Strauss's contention that there is no workable solution to the urgent problem of conflicting rates except by establishing a community of financial interest under a common ownership is merely special pleading for nationalisation, for the approach to the problem recommended by the Transport Advisory Council, and the plan subsequently evolved by the road and rail interests have not been given a trial.

Moreover, Mr. Strauss failed to mention the important principle enunciated by the Council that the public should have the unfettered right to select the form of transport which is the most convenient and economic for its own requirements, including the right of traders to carry their own goods in their own vehicles. If, as is generally expected, the Government's transport nationalisation proposals are published within the next few weeks, it will be interesting to see how it proposes to meet the practical difficulties of the present situation, as, presumably, whether the capital involved is privately or publicly owned, it will still have to be remunerated.

London Transport Fares

AS briefly mentioned in our issue of November 8, the Minister of Transport has decided to accept, except in one respect, the various recommendations of the Charges Consultative Committee, and to direct that the increased fares on London Passenger Transport Board services should begin to operate as early in January as possible. The Committee is to be congratulated on its able report, for it was a circumstance arising subsequent to its public inquiry which prevented the Minister from accepting the report in its entirety, and which caused him to modify the Committee's recommendation in regard to the 2d. fares. A moment's reflection will indicate the complexity and interdependence of fares for an organisation like the Board, operating railways, buses, trams, and trolleybuses.

Although it is generally recognised that the most equitable way of spreading an additional burden among all users of a transport system is to increase the charges by an appropriate even percentage, the limitations of coinage render this impracticable when, as in the case of the Board, 92 per cent. of the ordinary fare-paying passengers on the four modes of transport pay fares of 4d. or less, and the increase to be applied is relatively small. A further important consideration is that nearly 80 per cent. of the rail ordinary and workmen's tickets are issued from machines. Such machines can issue only a limited number of denominations, and to alter certain fares to include an odd halfpenny, in many cases, would increase very largely the proportion of tickets which have to be issued by hand. This would result in congestion, long queues, and delays at the booking offices.

To avoid increasing the present 2d. rail and road fare by an odd halfpenny, the Committee recommended that the fare should remain unaltered for 2 railway miles or 4 road stages, and be increased to 3d. for the remainder of the distances now covered by the fares. The alteration of fare stages is a major task, however, and this work was estimated to take eight months, thus preventing the increase operating until fairly late in 1947. The fact that, since the Committee's inquiry closed, the Board had agreed to certain increases in workshop wages estimated to cost £1,000,000 in 1947, made it necessary, however, for the Minister to amend the Committee's proposal in this respect, so that it could be brought into force quickly, would yield in 1947 the additional amount required, and would avoid certain practical difficulties inherent in the scale.

The Minister has decided, therefore, to increase all 2d. fares to 2½d., instead of adopting the Committee's scale. He has agreed, however, to the whole of its remaining recommendations, namely, that on road and rail services the existing 1½d. fare should be retained; that on road services all existing fares over 2d. should be increased by 1d. up to and including the present fare of 1s. 2d. for 28 stages, and higher fares by 2d. or 3d., as none of these has been increased during the war; that on the rail services existing fares of 3d. and 4d. should be increased by 1d.; and that rail fares over 4d., which have been increased during the war, should remain unchanged, thus making the standard road and rail fares in this range similar for comparable distances.

Although the Minister did not mention the remainder of the Committee's recommendations which he stated he accepted, they are: (a) that workmen's fares on railways should be adjusted to the general basis of ordinary single fare for the return journey (with a minimum of 4d.), with the proviso that no fare is to be increased more than 25 per cent. over pre-war; (b) that workmen's fares on road services (other than coaches) should be increased by the same amount as the corresponding ordinary single fares, except that the present 2½d. fare will become 3d.; and (c) that the maximum 7d. workmen's return fare on certain train and trolleybus routes should be increased by 1d. for journeys over 14 stages, and the corresponding 9d. return fare be increased by 2d.

As to rail season tickets, the rates are to be adjusted to make them correspond with the L.N.E.R. standard scale operating in October, 1937, as increased by 25 per cent. (subject to the proviso that no rate should be increased by more than that figure). The road portion of the very limited number of road-rail season tickets issued will be increased to 25 per cent. above pre-war, except for road journeys covered by existing ordinary single fares up to 3d., in which case an increase of 33½ per cent. will be made. With regard to the various miscellaneous fares, the cheap mid-day single fares of 2d. and 3d. will be increased by 1d.; the ordinary single maximum 6d. fare on certain tram and trolleybus routes and on parallel bus routes is to be increased by 1d. for distances over 12 stages; the corresponding return fare by 2d.; and the maximum 7d. workmen's return fares on these routes by 1d. for distances over 14 stages.

Any other non-standard return fares will be increased wherever the single fare is increased, so as to maintain or avoid increasing the present difference between the cost of the return fare and two single fares. The charges for weekly tickets authorising six return journeys will be adjusted in accordance with the existing basis of nine times the ordinary single fare, wherever the ordinary single fare is increased.

Because of the very extensive work involved, and printing difficulties, the Minister has promised to announce as soon as possible the date from which the revised fares will become operative in January. Finally, it is of interest that, after the Minister's statement in the House, he was asked to consider a financial reconstruction of the London Passenger Transport Board to reduce the capital charges, and thus eliminate the necessity for fare increases; but he replied that the Government had other proposals which shortly would be revealed.

American Experiments with Combustion Turbines

A RESEARCH project to develop a satisfactory coal-burning combustion turbine locomotive has been announced by the Locomotive Development Committee of Bituminous Coal Research Inc. This committee was formed recently in co-operation with a number of American railways, including the Baltimore & Ohio, the Chesapeake & Ohio, the Louisville & Nashville, the New York Central, the Pennsylvania, and the Norfolk & Western.

An experimental gas turbine set, fired by pulverised coal, has been tested already at the Johns Hopkins University in Baltimore. Orders have now been placed for two complete gas turbine locomotive plants, including electric generators, one to be built by the Allis Chalmers Company, of Milwaukee, and the other by the Elliott Company of Jeannette, Pennsylvania. Both are large and experienced manufacturers, and although their gas turbine plants will follow the same general pattern, each company will be encouraged to exercise individual ingenuity in developing its own design features. The American Locomotive Company, the Baldwin Locomotive Works, and the Lima Locomotive Company have agreed to contribute designs for the chassis and running gear.

The most novel features of the gas turbine plants are the method of "atomising" the coal to a fine powder, and the extraction of the small particles of dust and ash from the gas stream, before entry to the turbine, by means of a dust precipitator installed between the combustion chamber and turbine. It is claimed that these precipitators remove 95 per cent. of the ash, thus preventing any damage to the turbine blading. The exhaust air from the locomotive actually may be cleaner than the air taken in. It is expected that the two experimental

locomotives will be available for test purposes at about the same time. The engineers in charge of the project are confident that these locomotives will create a new standard of performance, and that, as a result of the experiments, a wide variety of coals will become available for use as gas turbine fuel.

Anglo-Scottish Railways Rating

THE annual report of the Anglo-Scottish Railways Assessment Authority for the year ended March 31, 1946, now has been published. This body was constituted under the Railways (Valuation for Rating) Act, 1930, with the statutory title of "The Joint Authority," the personnel consisting of a chairman, who is also the Chairman of the Railway Assessment Authority, and two other members, one appointed by the Railway Assessment Authority and the other to be the Assessor of Public Undertakings (Scotland). Their duty is to ascertain the average net receipts of the undertaking of a railway company which is carried on partly in England and partly in Scotland and apportion them on a fair and just estimate between the respective sections.

Before the passing of the Act of 1930, valuations of railways in Scotland were dealt with by the Assessor of Railways & Canals appointed under the Valuation of Lands (Scotland) Act, 1854, since June, 1934, designated as "The Assessor of Public Undertakings (Scotland)." To quote the Act, he "shall inquire into and fix in *cumulo* the yearly rent or values of all lands and heritages in Scotland belonging to or leased by each railway and canal company and forming part of its undertaking."

It is extraordinary that a practice of valuation which existed in Scotland for so many years was not applied to England and Wales until the passing of the Railways (Valuation for Rating) Act, 1930.

The report is devoted almost entirely to the settlement of the *cumulo* yearly rent or value for the fourth quinquennial period which operates from April 1, 1946, to March 31, 1951. The considerations which apply to the work of the Railway Assessment Authority appertain also to the Joint Authority, and the same difficulties arose in implementing the provisions of the Act, as, because of the curtailment of traffic records and so on, the information ordinarily used to test railway assessments was not available. Thus, it was almost impossible to ascertain the net receipts and make the apportionment due to the control of the railways by the Government and the war-time financial arrangements agreed with the companies.

The Joint Authority points out in its report that, although the matter was approached in a series of memoranda submitted to the Government by the Railway Assessment Authority, the railway companies, and the local authorities, in drafting the Bill determining the valuation in *cumulo* of each undertaking and the net receipts for the purpose of an apportionment between the English and Scottish portions of those undertakings, the Government did not consult the Railway Assessment Authority or the Joint Authority in subsequent discussions which took place before issuing the draft of the Bill. As a result, the *cumulo* yearly rent or value of the undertakings of the L.M.S.R. and the L.N.E.R. companies, so far as they are carried on in Scotland as set out in the Bill for the purposes of the fourth quinquennial period, were:—L.M.S.R., £598,960; L.N.E.R., £311,840.

It is of interest to note that the Joint Authority was invited, in conjunction with the Railway Assessment Authority, to submit to the Government drafting amendments. In view of this limitation, however, the Authority was not disposed to criticise the proposed *cumulos*, but expressed the view that they were inadequate and accepted them under protest. The values proposed were incorporated eventually without amendment in the Railways (Valuation for Rating) Act, 1946, which received the Royal Assent on July 26 last.

Evidently, if there had been no intervention by the Government and the matter had been left to the divergent interests concerned, the determination of the liability of the railways to rates would have involved protracted negotiations and possible costly litigation. In all the circumstances the Act of 1946 must be regarded as a satisfactory solution of a complex problem. Thus, another chapter has been written in the history of railway rating. Has someone, consciously or otherwise,

laid the foundation for settling the rating liability between the Government and the local authorities under nationalisation if and when this is decided?

The Winter Train Services

THE winter timetables of the four main-line groups follow, generally, the expected lines, with a gradual restoration of pre-war services, more or less at their old departure times, but with no signs of any new pooling or allocation arrangements—for instance, Euston has not yet recommenced to cater for Edinburgh and Aberdeen traffic from London. Possibly the locomotive shortage referred to in another article will necessitate the withdrawal of some of the new services.

The London & North Eastern, which hitherto has led the way in acceleration, has resumed running the "East Anglian," which was never a very ambitious train as regards speed, and now leaves Norwich at 11.50 instead of 12 noon, with an extra 10 min. added to its 2 hr. 10 min. schedule in each direction, and has restored the "Yorkshire Pullman" as from November 4. This train, which used to run between Kings Cross and Doncaster in 156 min. down and 155 min. up, is now allowed 174 and 178 min., leaving Kings Cross at 3.50 instead of 4.45 and reaching Leeds in 3 hr. 49 min. instead of 3 hr. 28 min., but any move to strengthen the London and Yorkshire services is most welcome.

Of greater interest is the running of what is virtually a new train from Hull to Edinburgh, leaving Hull at 10.10 and York at 11.15 a.m. and forming the 4 p.m. from Edinburgh to Glasgow, though, in spite of this relief to it from the North Eastern area, the "Flying Scotsman" is still duplicated daily. The Hull service returns from Glasgow at 11.20 a.m. and Edinburgh at 12.50, taking up the times of a pre-war relief to the 1.10 from Waverley as far as York, and arriving at Hull at 6.18 p.m.

It is good to see a steady improvement of the through services between Kings Cross and the coast towns of the North Eastern Area, which were rather neglected in 1939, and although the 8.55 a.m. from Kings Cross is still a 4-hr. train to Leeds, the morning service from London to the provinces benefits by the re-appearance of the 8.45 from Marylebone and the restoration to the Nottingham route of the 8.55 from St. Pancras. The rebuilding of the express services over the Great Central Section follows pre-war times rather slavishly, and only the 4.55 p.m. from Marylebone and the 2.20 p.m. from Manchester (6.38 into London) are now missing.

The Great Western has completed the down service from Paddington to Birmingham by restoring the 7.10 p.m., though there is still the pre-war gap with no train between 11.30 a.m. and 2.10 p.m. by either route. No further material accelerations appear, but nearly all the "summer" trains remain in the timetable, the retention in winter of the 11 a.m. to Penzance via Castle Cary being an unexpected boon.

A fast diesel buffet-car service runs between Swansea, Cardiff, and Gloucester, but at no higher speed than that of the steam trains, and there is a very interesting re-routing of the restored Newcastle and Swansea express, which now serves Oxford and Swindon and goes over the Badminton line instead of running from Banbury to Gloucester via Chipping Norton.

We notice, in conjunction with the Southern, a little acceleration of the Cardiff and Portsmouth through services, though the best time between Bristol and Southampton is still 2½ hours. On the Southern, the London and Bournemouth service now boasts a 12.30 p.m. "Bournemouth Belle" all-Pullman train, returning at 7.25 p.m. The down schedule is 125 min., but the up train is advertised in 2 hours, with a stop at Southampton in each direction, so that this is a return to pre-war speeds, when the "Belle," running down at 10.30 and up at 4.45, had 126 and 121 minutes for the journey. The sequence of departures from Waterloo for Bournemouth now only lacks trains at 2.30 and 4.30 p.m., but the latter (the "Bournemouth Limited") is covered by a 4.35—equivalent of the pre-war 4.45—and there is today an extra train at 3.20.

There are no material changes in the Southern's West of England services, apart from a Mondays only 9.25 a.m. from Exeter, bridging the gap between 7.30 and 10.35 and providing the best "up" time to Waterloo (3 hr. 43 min.), but it must be remembered that on the Western Section of the

Southern the passenger services were at a comparatively high level all through the war. We should, however, have welcomed more improvement this winter in the Kent Coast trains—still very far short of the "90 minutes to Margate" of 1899, in spite of the greatly increased locomotive power—but two up trains from Folkestone to Charing Cross have now 85-min. schedules, as on the down journey.

It seems time, too, for an overhaul of the stopping electric services on the Central Division, so that passengers on the express electrics can have the benefit of some acceleration on the longer runs. Frequency and regularity, rather than speed, have hitherto been the outcome of electrification.

The main interest this winter lies in the L.M.S.R. timetables, where the accelerations are numerous and wide-spread, though not great. Between Euston and Birmingham the six principal expresses now average 2 hr. 19 min. down and 2 hr. 18 min. up, compared with 1 hr. 56 min. and 2 hr. 3 min. in May, 1939, and four have restaurant cars, except on Saturdays. Euston and Manchester in 3½ hr. by the 6 p.m. down and 9.45 a.m. up (the 8.20 a.m. up from London Road takes 4½ hr., not 3½, as the preliminary announcements stated) is only a return to the schedule of June, 1902, when the 4½-hr. minimum time agreement went by the board.

The service from Euston to Lancashire seems over-generous in the afternoon, with trains to Liverpool at 2 p.m., after a long gap from 10.40 a.m., 2.40, and 3.45, and to Manchester at 2.10, 2.50, and 3.55 p.m. Euston to Glasgow by the two day services in 8½ hr. and 8 hr. 50 min. is considerably above the East Coast's day schedules to Edinburgh of 8 hr. 2 min. and 8 hr. 10 min. from Kings Cross. But this, in itself, is reasonable enough, if we recall the long interval between the end of the first world war and the Great Western's announcement of a return to pre-war schedules, which started a general acceleration in Great Britain; and the group of L.M.S.R. night trains accelerated in October, 1945, in connection with the down Postal service, has not as yet been conspicuous for punctuality. The heavy delays which have been taking place to passenger trains cannot be eliminated in a night by the publication of a new timetable, and no reasonable critic would expect the faster schedules of 1939 to be restored until after the experience of, at least, another summer, or grumble at the gradual process of acceleration so necessary in the interests of punctuality. The moderately fast trains now running need not be seriously affected by a few permanent-way and signal checks, and some of them have in their booking large slices of "recovery time."

The real task of the October timetables is to secure the return of passenger traffic into its 1939 channels and proportions. In the absence of any definite allocation of traffic by the Railway Executive Committee, and as a result of the almost complete destruction of express services over the old Midland and Great Central lines by the emergency timetable of September, 1939 (which dealt an unduly heavy blow on Leicester, Nottingham, and Sheffield), Euston has had to deal with the complete volume of London and Manchester traffic, which used to pass from Marylebone, Euston, and St. Pancras in proportions of about 10, 50, and 40 per cent.; and the London & North Eastern at Kings Cross has been so heavily burdened with Yorkshire business, that we have had the amusing spectacle of Euston labelling and announcing the Stockport-Huddersfield portions on at least two Manchester expresses as for "Halifax and Bradford," which recalls the L.N.W.R. experiment of a Euston and Bradford sleeping car in 1905! Now the London and Manchester business should drift back more or less into its old channels, as the Midland route offers six reasonably good St. Pancras and Manchester trains (with a seventh on Saturdays, and three carrying restaurant cars), which average 4 hr. 30 min. down and 4 hr. 23 min. up, though we notice that no Midland trains now run into Manchester Victoria, nor over the Cheshire lines.

A little more improvement and acceleration from Marylebone and St. Pancras may still be necessary to restore the balance of the London and Yorkshire traffic; the Midland, for instance, offers no through services from London over the Thornhill line, and the three best up trains from Leeds to St. Pancras still take 4 hr. 13 min., 4 hr. 17 min., and 4 hr. 22 in., all running *via* Sheffield; and we should have liked to see in the Marylebone services a more definite tendency to cater for Huddersfield and Halifax.

As regards the L.M.S.R. programme in general, the Western Division appears still to be patching and improving on the basis of the 1939 emergency timetable, while the Midland Division apparently has reverted to the pre-war service, generally with earlier departure times and at lower speeds, scrapping most of its wartime arrangements. The Northern Division, apart from its share in acceleration of through trains, has left its internal services, which never fell quite to the level of its partners in the South, severely alone—Glasgow and Aberdeen, for instance, remaining almost a 4-hr. journey by most trains, although the London & North Eastern has brought the Edinburgh and Aberdeen time down to 3 hr. 25 min., 3 hr. 34 min., and 3 hr. 35 min. northbound, and to 3 hr. 39 min. and 3 hr. 40 min. coming south.

We cannot refrain from commenting, even at this early stage in reconstruction, on some apparent lack of co-operation between groups. In spite of the old argument about the "claims" of intermediate towns, the London and Birmingham and London and Yorkshire services, for example, might have been spaced out to better advantage by the railways providing them, and there are some rather serious failures to establish essential connections, even between divisions of the same group. The service between Lancashire and Scotland provides one outstanding case, for by the alteration of the old-established 12.30 train from Manchester to Glasgow, which now leaves at 2 p.m., connection to the North of Scotland by the 10.8 a.m. from Euston to Perth is severed at Carlisle, and passengers from Lancashire also miss the 8.55 a.m. from St. Pancras to Edinburgh. This train is actually booked into Waverley at 6.46 p.m., while the connecting trains, off the 10 a.m. from Kings Cross to the North and West, are booked away at 6.40 p.m. for Glasgow, 6.45 for Aberdeen, and 6.55 for Perth. The last-named train is deliberately shown as not connecting with the 6.46 arrival from St. Pancras, while the subsequent Midland Division service (11.50 from London) reaches Waverley at 9.46 p.m., just missing the last departure for Perth at 9.40!

There is room, too, for early improvement in some cross-country and inter-urban services. Among the former, the restored "Pines Express" from Manchester to Bournemouth (with no restaurant car, and no through portion from Liverpool, which city must now rely on the Great Western service from Birkenhead through Oxford) takes 7 instead of 6½ hr. on its northbound run; in the latter category comes the service between Manchester and Liverpool, which was very drastically cut in 1939, and even now only boasts four trains from Manchester and two from Liverpool over the old L.N.W.R. route (home of the hourly 40-minutes service ever since 1896) which have been materially speeded up, though the old Lancashire & Yorkshire line has once more a fair service of 45-minute trains.

Glasgow and Edinburgh is another bad example, where co-operation might long ago have provided an hourly service by one or other route, whereas on the old North British line the best time is still 70 min. for the 47½ miles westbound and 78 in the opposite direction.

These, we hope, are matters which soon will receive attention, just as the frequent severance of booked connections may soon be expected to end with improved punctuality, and it remains only to welcome the return of a limited amount of seat reservation, and the increase in sleeping-car and restaurant services. It seems a pity that railways in general have not made a greater use of buffet cars, which are singularly well suited to catering conditions today, but a special word of praise is due to the London & North Eastern for the very great advances this year in the food and service at its refreshment rooms—an improvement now spreading to the other groups.

The position as regards Sunday services appears still to be in doubt, but many of the extra Sunday trains which appeared in the 1939 emergency timetable—some of them running in weekday schedules—still run today, and we believe that nearly all of them will justify permanent retention. The new London & North Eastern Sunday morning train from Leeds to Scotland is a welcome addition, as there was hitherto no good Sunday service from York for north of Newcastle earlier than the morning Scotch expresses from London, and the return timing of the new train on Sundays amounts practically to the running of the 4 p.m. weekday express from Glasgow as far as Newcastle.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Southern Railway Electrification

"Graythwaite," 14, Keldane Gardens,
West Road, Newcastle-upon-Tyne.
November 4

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Many persons besides myself have been astonished to read in the daily press of the Southern Railway's decision to spend £15,000,000 upon electrification projects in Kent and Sussex, with a further qualified promise to carry the third-rail into the West of England as far as Cornwall.

The full significance of this political move has yet to be appreciated, but the following two points already have emerged from the smoke screen. The first of these is that, although rates and fares have been raised twice recently on the plea that the railways must be rendered self-supporting, one of the four major systems in this country is, apparently without difficulty, able to find £15,000,000 which it proposes to lay out on an altogether unnecessary scheme which certainly cannot have the slightest effect upon the cost of rail transport except in an adverse sense.

Secondly, it must be noted that, whilst the scheme is being promoted by the Southern Railway Company, the ultimate burden will fall upon the taxpayer, for it is evident nationalisation, for good or ill, will have been extended to include transport before the electrification project is complete. The Southern shareholders, however, stand to lose nothing, because the electrification outlay will be included in the compensation sum paid them by the Government when their concern is taken over. It will be the nation's duty, also, to find part of the extra £400,000 per annum that will be required to meet the capital charges called for by the scheme, for it is morally certain that the proposed electrification works will neither effect economies in operation nor attract sufficient extra traffic to anything like that amount.

It is my opinion that the Government should forbid "last-minute" plans for wholesale electrification, especially when, like the Southern project, they are open to serious criticism on economic grounds. Indeed, if this railway can find £15,000,000 to spend upon an electrification scheme the final responsibility for which will be borne by the country, and not by the Board of Directors who initially sanctioned it, then the time for some such control is urgent.

Yours faithfully,

B. RICHARDSON

[Our correspondent is entitled to his "opinion," but as his letter is dated November 4, he has evidently formed it before reading the full account of the scheme as published in our November 8 issue (pages 515 and 525). Had he been less impetuous, he would have seen that the Southern Board and Chief Officers who had investigated the scheme estimate the return on the capital involved at 6 per cent.—ED., R.G.]

High Fares for Short Distances

49, Grovehall Drive,
Leeds, 11, November 2

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Further to Mr. C. H. Herbert's letter printed in the issue dated November 1, regarding the excessive rail fares charged for short-distance journeys, can any reader explain the following anomaly?

In 1939 the fare (third return) for the 25½-mile journey from Leeds to York was 3s. 3d. (return halves being available for three months). Now, in 1946, the same journey costs 6s. 4d. (third return) and the return half is available for one month only—an increase of over 80 per cent. over the 1939 fare and a mere 40 per cent. over the advertised 37½ per cent. increase.

The return fare by road, journey time 65 min. approximately, against 35 min. fast train (if arrival is on time!), is 3s.!

Yours faithfully,

J. KEAVEY

5, Maxwell Rise,
Oxhey, Watford, Herts. November 5

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Mr. C. H. Herbert has done a service in calling attention to the high fares charged for short distances on the main-line railways. Such fares suffer three "roundings off"—first the distance is rounded off to 1 mile; then the pre-war fare of 1½d. plus 5 per cent. is rounded off to 2d. under a fractions

rule by which fractions of ½d. count as ¼d.; the present fare of 2d. plus 33½ per cent. is rounded off to 3d. under a fractions rule providing that fractions of ½d. and over shall be counted as 1d.

Although it is likely that any further revision of fares may not affect the present minimum of 3d., seeing that all revisions since 1939 have been on the basis of the pre-war fare of 2d., as Mr. Herbert points out, the 3d. minimum frequently bears no relation to other existing facilities. This point is underlined by the report of the Charges Consultative Committee on the revision of London Transport fares, which report demonstrates the desirability of similar fares for similar distances in the same area.

The result of the revision of London Transport fares decided upon will make it difficult to justify the 3d. minimum main-line fare. For 2½d. one will be able to travel twice the distance by bus, and whilst it will cost 3d. to travel from Harch End to Headstone Lane by train, it will still be possible to travel a mile on the same train (at points between Queen's Park and Elephant) for 1½d.!

Yours faithfully,

H. W. HOWARD

Gold Coast Railway, 1939-45 War Activities

General Manager's Office,
Gold Coast Railway,
P.O. Box 2, Takoradi. October 8

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—With reference to the article in regard to the war activities of this Administration during the years 1939-45, published at page 305 of *The Railway Gazette* dated September 13, 1946, I would invite your attention to a misleading figure quoted therein, stating that in 1939-40 the vehicle mileage was 9,773 and in 1944-45 was 13,884.

I would point out that this is entirely misleading, as the information has been extracted from page 4 of the booklet, wherein it is distinctly stated that these two figures represent the average miles per vehicle, not the total vehicle mileage.

Actually, the figures given in the statistical tables show that the vehicle mileages were as follows:—

	1939-40	1944-45
Miles		
Coaching vehicle mileage ...	4,346,321	4,836,381
Goods loaded vehicle mileage ...	5,150,993	10,098,886
Goods empty vehicle mileage ...	2,527,953	5,135,445
	12,025,267	20,070,712

I should be grateful if you will publish a short notice in a further publication of *The Railway Gazette*, drawing attention to the misleading information.

Yours faithfully,

C. R. TURNER,
General Manager

[We regret the error, which arose by reason of the inadvertent omission of the word "average" in the article.—ED., R.G.]

Concrete for Railway Construction

Huntington Hall,
York. November 10

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—I thank Mr. Pearson for the attention he has given to my letter, and for his large measure of agreement with my points. But in railway practice at any rate, still further use could be made of concrete, particularly in bridges.

As Mr. Pearson says, concrete should be regarded as a primary building material, and not as a substitute. Concrete enables us to get continuity; it is not a juxtaposition of constituent parts, as metal structures are, but a homogeneous whole.

A concrete structure must not be regarded as made up of parts under stress; it is a three-dimensional system, and as such has enormous structural possibilities, provided we keep in view the physical behaviour of the structure as a whole.

That the water content is of essential importance is my main point; if rounded aggregates are more workable with the same water content, obviously they will have the same workability with a smaller water content.

May I remind Mr. Pearson that highly reputable firms are sometimes found to provide cements with a resistance to crushing varying up to 15 per cent., and having considerable volumetric instability and very different thermic properties?

The economies I had in view concerned the drafting of specifications rather than their execution when drafted.

Yours faithfully,

M. D. BRISBY

The Scrap Heap

"We hope that when we build the next vessel for this service, if that is entrusted to us, it will be for the London & North-Eastern Railway Company, and not for the North-Eastern Branch of the British State Railways."—*From a speech by Lord Aberconway, Chairman of John Brown & Co. Ltd., after the launch of the new L.N.E.R. steamship "Arnhem" for the Harwich-Hook of Holland service.*

CHIEF "IRON HORSE" OF THE NAVAJO INDIANS

Mr. J. B. McColl, President of the American Locomotive Company, was inducted formally as "Chief Iron Horse" by the Navajo Tribe of Indians at a dinner given by the company at the Waldorf-Astoria Hotel, New York, in honour of the Santa Fe Railway. The ceremony was a surprise to the host, who was invested with a ceremonial blanket and the red headband of his rank. The dinner, at which Indian dancers from the South West performed tribal rituals, was held in conjunction with the introduction to the railway industry of a new 6,000-h.p. diesel-electric locomotive, which since has been delivered to the Santa Fe for service on fast passenger trains between Chicago and the West Coast.

100 YEARS AGO

From THE RAILWAY TIMES, November 14, 1846

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—Contract for Station Lamps, Luggage Slides, and Platform Steps.—WANTED, for this Company, from 100 to 200 Station Lamps, with wood posts, fitted with cast-iron supporters, 14-inch lanterns, and Argand ring burners, and to be fixed at any station on the line required.

Also, 50 Luggage Slides, and 36 Platform Steps.

Patterns may be seen at the Storekeeper's Office, Brighton, to whom tenders may be sent on or before the 23rd instant.

PETER CLARK, Manager.

Brighton, November 9, 1846.



[From "The Evening News"]

CENTENARY OF THE BEDFORD RAILWAY

On November 17, 1846, the directors of the Bedford Railway invited a large number of influential local people to take part in an inaugural excursion from Bedford to Bletchley and back, and a ceremonial banquet was held that afternoon at the Bedford Rooms. The railway was opened for public traffic on the next day. Although it now forms an integral part of the 77-mile L.M.S.R. cross-country route linking Oxford and Cambridge, the original line between Bedford and Bletchley was promoted and built purely as a local branch connecting Bedford with what



THE DIRECTORS OF THE BEDFORD RAILWAY

Request the honour of

Mr. H. P. Vancombes
Company at dinner on Tuesday, the 17th instant, at the Bedford Rooms, at three o'clock, on the occasion of opening the Line.

Bedford, 11th November, 1846.

The favour of an answer is requested, addressed to Mr. Theod. Pearse, Jun., the Secretary.

No. 207 This Ticket is not transferable, except to a member of the family, and must be produced at the door.

Invitation to inaugural dinner

OPENING OF THE Bedford Railway.

Ticket for the Excursion to Bletchley and back.

TUESDAY, NOVEMBER 17th, 1846.

THEOD. PEARSE, Jun. Secretary.

Ticket for opening journey

was then the nearest main-line railway. Although the Bedford Railway Company was nominally a separate entity, the London & Birmingham Railway was closely interested in the proposal, and arrangements were made before the opening for the latter company to work the Bedford line as one of its branches. This arrangement passed to the London & North Western Railway Company, the London & Birmingham having been amalgamated with other companies to form the L. & N.W.R. as from July 16, 1846.

THE RAILWAY ARMS

Through an error in shunting, a G.W.R. truck containing beer, stout and cider became attached to a train of pig-iron and arrived at Panteg steel works instead of the Railwaymen's Club. At Pontypool recently three men were each ordered to pay £3 costs for taking 122 bottles of stout from the truck.—*From "The Sunday Express."*



[From "Company Manners" issued by the New York Central System]

Watch your Slanguage!

Slang sounds slack and unbusiness-like. And it is apt to be misunderstood by customers. So are technical railroad terms. In talking to patrons, watch your slanguage. Try to use clear, simple words that cannot possibly give a bad impression or cause confusion.

P.A.Y.E. AND THE RAILWAYS

The railways have revealed that P.A.Y.E. alone costs them £250,000 a year to administer. What does that mean in terms of labour? About a thousand clerks taken out of productive industry.

Multiply that to cover all industry, and you get a rather terrifying picture of the state to which bureaucracy is reducing us.

Many factories which have their full pre-war labour force back are nowhere near back to the 1939 level of production. All give the same explanation: "We just can't get on because the Government messes us about too much."—*Mr. John Gordon in the "Sunday Express."*

NAMED TRAINS IN ARGENTINA—2

Name	Railway	Scheduled run
El Centinela	B.A.G.S.	Buenos Aires—Saavedra
Sud Atlantico	"	Buenos Aires—Bahia Blanca
El Tronador	"	Buenos Aires—Bariloche

SHUNTING IN 1550

"Whilst on the subject of dialectal expressions, I would mention an obsolete term which has by some singular chance recently been revived, and is actually in daily use throughout England in the railway vocabulary—I mean the verb 'to shunt.' Nothing is more common than to see an announcement that at a certain place the parliamentary 'shunts' to let the express pass; or to hear the order—'shunt that truck,' push it aside, off the main line. In the curious ballad put forth in 1550, called 'John Nobody' (Strype's Life of Cranmer, App. p. 138), in derision of the Reformed Church, the writer describes how, hearing the sound of a 'synagogue,' namely, a congregation of the new faith, he hid himself in alarm:

"Then I drew me down into a dale, whereas the dumb deer

Did shiver for a shower, but I shunted from a freyke,

For I would no wight in this world wist who I were."

"In the Townley Mysteries, Ascensio Domini, p. 303, the Virgin Mary calls upon St. John to protect her against the Jews:

"Mi fleshe it qwakes, as lefe on lynde, To shontt the shrowres sharper than thorne."

Explained in the glossary, 'sconce or ward off.' Sewel, in his English and Dutch Dictionary 1766, gives: 'To shunt (a country word for to shove) schuiven.' I do not find 'shunt,' however, in the Provincial Glossaries; in some parts of the south, 'to shun' is used in this sense. Thus, in an assault case at Reigate, I heard the complainant say of a man who had hustled him, 'He kept shunning me along; sometimes he shunt me on the road,' that is pushed me off the footpath on to the highway.—*From "Notes & Queries," Vol. 3, p. 204, No. 72, March 15, 1851.*

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

NEW SOUTH WALES

Conversion of 100 Locomotives for Oil Fuel Firing

Owing to diminishing coal stocks, and the need to provide for increasing railway traffic, the Commissioner for Railways, Mr. T. J. Hartigan, decided to equip 100 steam locomotives with oil-burning equipment. The first engine so fitted already has been placed in service, and is a "D-55" class freight 2-8-0.

An oil storage tank with a capacity of 2,400 gal. of diesel fuel oil has been fitted into the tender; other oil-burning equipment includes special steam and oil control valves, safety devices, and a burner located at the front of the firebox. This burner has two rectangular apertures, one

signals picked up on the collector arrays. A reflector system is interposed between this wire and the tunnel roof. In the course of the tests, continuous communication was maintained between a fixed station and a train passing through the tunnel, and it was found, also, that signals from the train were received satisfactorily outside.

Luggage Handling at Terminals

In the near future, passengers arriving at Los Angeles Union Station, and Portland Union Station, on the Union Pacific streamline trains "City of Los Angeles" and "City of Portland," will be able to have their personal luggage transferred directly from their sleeping cars and coaches to the station taxi ranks. The

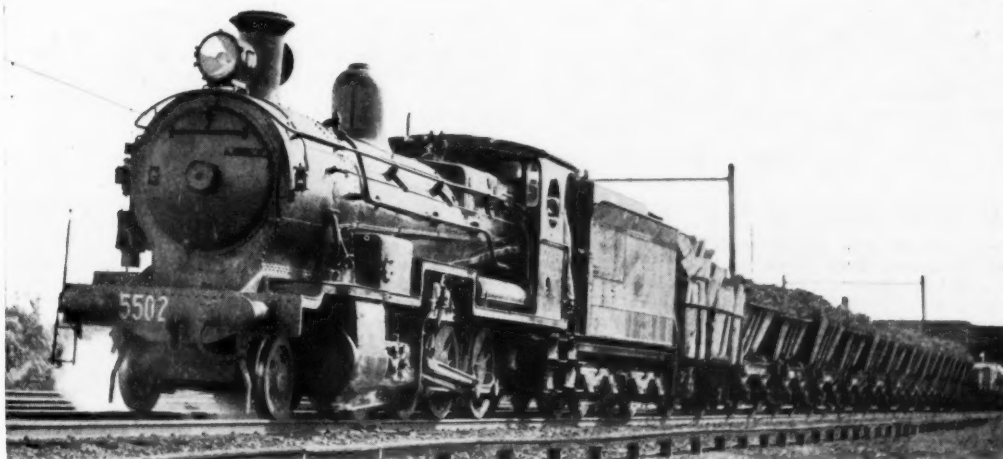
ing the provision of a suitable headquarters building. Provision will be made also for the renting to the leading airlines serving Canada of booking offices, terminal, and other facilities, the whole building forming a complete air travel centre.

SOUTH AFRICA

Oil Reclamation

An anti-waste measure developed by the railways during the war years for the reclamation of oils and woollen waste has expanded to such an extent that today it provides an annual saving of nearly £60,000. Before the war the railways foresaw difficulty in obtaining oil from the usual sources, and arrangements were made to increase stocks. This improved matters for a time, but thereafter shipping losses plus the inability of producers to supply the quantity required, led to a critical state of affairs. Woollen waste,

An Oil-Burning Locomotive in New South Wales



Oil-fired class "D55" 2-8-0 locomotive on a trial run

to feed oil and the other for live steam from the boiler. As the oil gravitates through this burner it is atomised by the steam and supplied to the firebox.

The intention at present is to operate oil-burning locomotives between Enfield and Thirroul, Goulburn, Lithgow, and Broadmeadow. It is expected that eventually they will run to more distant depots. When the 100 oil-burning locomotives are in service, coal consumption by the department's locomotives will be reduced by over 100,000 tons a year. The "D-55" class engines have two cylinders, 22 in. dia. by 26 in. stroke, and coupled wheels of 4 ft. 3 in. dia. The tractive effort is 33,600 lb.

UNITED STATES

Radio Communication in Tunnels

A demonstration has been given on the Baltimore & Ohio of a system for maintaining radio communication with trains when passing through tunnels. In such circumstances it is usual for absorption of radio energy by the tunnel walls to cause a drop in signal strength. The system demonstrated on the B. & O. uses collector aerial arrays at both ends of the tunnel, linked by a wire which acts as a re-radiator inside the tunnel of the

luggage of passengers wishing to make use of this service will be specially labelled, and on arrival at the termini will be unloaded and conveyed to the taxi ranks, where the owners will claim it by means of forms issued to them on the trains.

CANADA

C.N.R. to Build Offices at Montreal

A modern office building and hotel will be built in Montreal by the Canadian National Railways on the site of the Central Station here, and work will begin as soon as conditions in the building industry permit. The Minister of Transport, the Hon. Lionel Chevrier, announced on October 12 that the proposals made by the C.N.R. board of directors for the use of land acquired for the new Montreal passenger terminal had been fully considered, and authority had been given by the Government to begin detailed planning of the project. The site was acquired 20 years ago. A beginning will be made with the construction of one wing of the new office building, facing on Dorchester Street West, in which will be housed the International Civil Aviation Organisation and the International Air Transport Association. These two bodies have their headquarters in Canada, and have been await-

too, an essential commodity in the lubrication of rolling stock, was in very short supply at all times during the war. Reclamation plants, therefore, were set up at centres not previously equipped, and other plants were extended. The railways prepared their own designs for these plants and incorporated considerable technical improvements, using scrap metal very largely in the construction. With the plants operating at full capacity, the saving increased year by year, until today the quantity of oil reclaimed exceeds 150,000 gal. a year, and owing to this reclamation the railways are using only slightly more than half as much new woollen waste as in 1939.

Supply Office in U.S.A.

The former South African Government Supply Mission in Washington, which was under the control of the Department of Commerce & Industries, ceased to function as such on October 31, and was replaced by a new organisation called the South African Supply Office, under the control of the South African Railways. The new organisation is responsible for purchases in America for the South African Railways, as well as other Government departments, and is supervised by a railway officer with the designation of Superin-

tendent, South African Supply Office. The headquarters of the organisation are in Washington, but it is the intention to transfer the office to New York at a later date.

Mr. W. A. Timmerman, Secretary to the Railway Tender Board, was appointed to take charge of the new office, and left for Washington early in October.

SWEDEN

Improved International Connections

Railway connections between Scandinavia and other European countries are improving gradually. Regular train services for passengers and goods exist at present from Sweden, via Denmark, to Holland, Belgium, France, Switzerland, and Italy. Moreover, via the train-ferry route between Trelleborg and Gdynia, opened by the Swedish State Railways in April, Sweden operates through services to Poland. Through sleeping cars between Stockholm, Warsaw, and Zerbzydowice (on the Czech border) are running twice a week, and from November 17 similar connections will be instituted between Stockholm, Gdynia, and Prague, also serving Vienna.

From the same date another new service, the "Scandinavia Express," will operate three times a week between Copenhagen, Amsterdam, and the Hook of Holland (for Harwich and London). In both directions there will be connections

for Stockholm, Gothenburg, and Oslo. The "Scandinavia Express" will run daily as from May 4, and as from July 1 there will be through sleeping cars from the Hook of Holland, via Copenhagen, to Stockholm.

The Swedish State Railways report, also, that better timing is to be introduced shortly for the "Nord Express" from Paris. A whole day will be gained, as the arrival at Stockholm will be at 8.45 a.m. instead of 7.8 p.m. as at present. Another daily connection will be established by attaching first, second, and third class coaches between Copenhagen and Paris to the "Scandinavia Express."

[Further details of the "Scandinavia Express" connections were given in the report of the European Timetable Conference in our November 1 issue.—Ed., R.G.]

U.S.S.R.

Electrification in the Five-Year Plan

The current five-year plan of the Soviet railways [see *The Railway Gazette* of August 23.—Ed., R.G.] provides for widespread electrification, particularly in Siberia, where electric locomotives are less affected by the elements than steam engines.

Such important trunk routes as the Urals-Siberia (Kuzbas-Omsk-Chelyabinsk-Ufa) line, and the Karaganda-Aktyubinsk-Kartali, and Bogoslovsk-Sverdlovsk-

Chelyabinsk lines are to be fully electrified. From 1946 until 1950 electric locomotives are to replace steam locomotives on 3,300 miles of railway.

Construction of New Material

The restoration and construction of workshops will furnish the Soviet railways with new engines and rolling stock. For instance, 7,595 locomotives will be supplied during the Five-Year Plan. There will also be a corresponding increase in the production of rolling stock, and it is planned to put 472,000 new coaches in service. Construction has begun already of fuel-saving locomotives and larger metal freight cars. The construction of diesel engines, formerly built exclusively for the Ashkabad Railway, will be carried out on a large scale. Automatic coupling and other up-to-date devices will be applied extensively.

Passenger Service Improvements

Passenger services are to be improved and accelerated; 170 comfortable passenger trains have been commissioned already for the main trunk lines of the country, from Moscow to Leningrad, Kiev, Caucasus, and the Crimea. In 1950 the railways of the Soviet Union will carry about two billion passengers. Some 2,000 new and handsome railway stations are to be built, particularly on the newly-restored lines.—D. Svetov.

Publications Received

Full Steam Ahead—The Indian Railways, Their Problems, Their Work, and Their Plans for the Future. The Press Information Bureau, Government of India; published for the Railway Board. 9½ in. × 7 in., 56 pp. Price 8 annas (9d.).—This attractive publication contains over 80 photographic reproductions depicting scenes on, or connected with, Indian railways. The cover has a coloured sketch of a N.W.R. four-cylinder "XS" Pacific at speed, and both front and back portions of it fold. Notable stations are illustrated inside the cover, and in the front double-page fold is a coloured map of the railways. The corresponding space at the back is devoted to plans of the railway layouts in the principal Indian cities and in the coalfields. There are two whole-page coloured illustrations, one of the famous Taj Mahal at Agra; and some of the half-tones are tinted.

The text deals with all aspects of railway operation in peace and war, touches upon history, and briefly sketches the individual railways. Some of the highlights in the way of facts and figures form the subject of two editorial notes in this issue. The print, paper, and general production are good, and the whole brochure is a commendable achievement at a very moderate price.

Unsere Bahnhöfe und ihr Personal (Our Stations and those who man them), by Werner Tribelhorn: 74 pages, 8 in. × 5 in. Illustrated. S.B.B. Fibeln Heft 2. (Swiss Federal Railways Primers, No. 2.) Orell Füssli, Zurich.—This is the second of a series of small volumes. The first was on locomotives, being issued under the auspices of the Swiss Federal Railways, as part of a praiseworthy attempt to present to the Swiss public the important facts about its national railway system and to promote intelligent understanding of the equipment and methods of working.

It explains admirably the work in passenger and goods stations and marshalling yards, the duties of the various grades of the staff, the conditions of entry into the service, promotion, and retirement conditions. The layout of the various types of stations is explained, with the timetables, notices, and other documents, and every phase of station activity is described. The book, quite a model of its kind, can be recommended cordially to all interested in the Swiss lines, or railways generally.

The Stock Exchange Official Year Book, 1946. London: Thomas Skinner & Co. (Publishers) Ltd., Gresham House, Old Broad Street, E.C.2. 10 in. × 7 in. × 4½ in. Pages i to clxxxvi and 1 to 3202. Price £5. Including postage (British Isles) £5 1s. 6d.; (Europe) £5 3s. 9d.; (U.S.A. and Canada) \$25; (elsewhere) £5 5s. 6d.

Register of Defunct and Other Companies Removed from the Stock Exchange Official Year Book, 1946. Same publisher as above. 10 in. × 6½ in. 364 pp. Price £1. This issue of the "Stock Exchange Official Year Book" restores various features omitted from earlier editions on account of war conditions. Notices of approximately 100 foreign companies, which have not appeared since 1940, have been reinstated. Particulars are given of 48 companies and 7 municipal loans issued during the past twelve months.

Tables relating to municipal and county finance appear again in the special chapters, which also contain an authoritative article on Indian finance and statistical tables relating to the Dominions, Colonies, and certain leading countries of the world. The former article on Dominion income tax relief has been replaced by one dealing with double taxation relief, compiled to show the effect of the Finance (No. 2) Act, 1945, on double taxation and the method of passing on Dominion income tax relief. Another new article gives particulars of the convention between the

Governments of the United Kingdom and the U.S.A. for avoidance of double taxation on income.

The former supplementary index to the year book now appears under the new title of "Register of Defunct and Other Companies." More than 2,000 new notices have been added in the present edition, and some thousands of those which appeared in previous editions have been amplified.

Sankey's Super Acid-Resisting Cement.—A new leaflet from J. H. Sankey & Son Ltd., Ilford, describes the special features of this product of the firm and includes full directions for its use. The cement resists water and all acids except hydrofluoric, sets in twelve hours, and withstands temperatures up to 1,200° C. It is ideal for use where acids or acid fumes are encountered.

L.M.S.R. Docks and Harbours Folders.—The L.M.S.R. has added to its first folder on Garston Docks four more folders describing other docks and harbours on its system. They are devoted to Barrow Harbour & Docks, Fleetwood Harbour & Wyre Docks, Grangemouth, and the harbours of Avy and Troon. All four publications are illustrated and carry a map. A concise description of the dock system at each port, with particulars of the type of traffic handled, is included.

Bristol Aircraft, Type 170.—The Bristol Aeroplane Co. Ltd., Filton House, Bristol, has issued an illustrated folder describing the company's Type 170 twin-engine multi-purpose aircraft. In its passenger form the machine provides 32 seats, luggage accommodation, and stewards' pantry, and is known as the "Wayfarer." Alternative interior arrangements make the aircraft suitable for freight transport, with a capacity for a load of 11,950 lb. Estimated operating costs with full load are 1.1d. per passenger-mile or 7.8d. per ton-mile.

The Design of Railway Stations*

Sir Charles H. Newton, Chief General Manager, L.N.E.R., on the future of London termini

It is often said that railway stations are the shops in which we sell transport to the public. It is also said that one of our national British characteristics is a dislike of outward show and window-dressing. The two generalisations, taken together, may perhaps explain the drab and uninspiring appearance of many of our older stations.

The first attempt to build stations of any architectural merit came when it was decided that the administrative headquarters of a railway could conveniently be placed at one of its termini. Commissions to design terminal stations, with headquarters offices adjoining, were accordingly given to architects such as Philip Hardwicke, whose design for Euston was a notable landmark. Hardwicke's elegant classical style was in harmony with the best architectural traditions of his period; but he did not really solve the problem of making a railway station an harmonious and integrated unit. The first building to achieve this was probably Lewis Cubitt's design for Kings Cross.

The early Victorian age witnessed the growth of a new development in building technique—the use of cast iron segments to form wide arches capable of carrying glazing over extremely large spaces. Paddington Station is an outstanding example of this type of construction, which reached its highest technical achievement in St. Pancras in 1868.

The present trend of terminal station design is, however, towards features which are more akin to American and Continental practice than to traditional British practice. We are in fact witnessing the evolution of a new type of station in which all passenger amenities will be provided in a single block of buildings. The platforms become mere pathways along which the public move to enter or leave the trains, and they are consequently given no amenities apart from an "umbrella" roof. A good example of this type of modern station is Leeds City. There is, however, a practical difficulty to be overcome. The concourse is intended to be cut off from the platforms by folding glass partitions, to exclude the draughts which in winter seem to permeate nearly every British railway station. But there seems to be no means of ensuring that these screens are kept closed, as the staff will leave them open to save themselves trouble when barrowing traffic to and from the platforms.

Planning and the London Termini

I come now to the question of terminal facilities in London at the present day. Whilst I fully agree that there are many shortcomings in our existing stations which can and must be rectified, I am a little horrified by the light-hearted way in which some of our planners propose to move terminal stations a few hundred yards, at enormous cost, or to amalgamate two adjacent stations, the traffic of which is completely independent, merely for the sake of what on paper appears to be a more logical layout.

As regards the L.N.E.R., the County of London Plan proposes that at Liverpool Street the present site should be set back, partly to clear it of the confusion of narrow thoroughfares in the vicinity; and it

might then be used for an underground station for suburban lines. There would be a separate main-line station on the site of the present Bishopsgate Goods Station. There would be connection, by a low-level loop, with Fenchurch Street Station. Fenchurch Street and its viaduct approaches would be placed underground.

Representatives of the main line railway companies and London Transport have studied these proposals, and point out that the principal objections to the separation of main line and suburban traffic on the lines suggested in the plan are as follow:—

- (i) No direct connection between the two stations, consequently passengers desiring to interchange between suburban and main line trains would require transport by road for themselves and luggage for a distance of half a mile.
- (ii) Inconvenient situation of Bishopsgate Station in relation to City business area.
- (iii) No direct interchange between Bishopsgate Station and L.P.T.B. Underground lines.
- (iv) Greatly increased omnibus services to serve main-line station.
- (v) Duplication of passenger amenities.
- (vi) Two stations would preclude inter-availability of rolling stock.
- (vii) Separation of Great Eastern Hotel from main line and Continental services.

Comment must also be made upon the absence of direct interchange between the new Bishopsgate Station proposed in the County of London Plan and the L.P.T.B. Underground system. The loop from Fenchurch Street would not overcome this disability, neither would it assist in the transfer of traffic between Liverpool Street (suburban) and Bishopsgate (main line), a consideration of much greater importance.

The Railway (London Plan) Committee, in my opinion, takes a more realistic view of the problem than do the authors of the County of London Plan. The alternative proposals put forward by the committee embody a new principle, namely, the projection under Central London of the electrified suburban services of the main line railways by means of deep-level tubes large enough to take full-size rolling stock.

Whilst the committee's proposals will require the most careful examination and their cost is truly formidable (approaching £230 millions at post-war prices), I am personally of the opinion that something on these lines will have to be done.

Changes at L.N.E.R. Stations

I turn now to the problems which my own company will have to solve at its principal London termini, on the assumption that certain cross-London tubes will be built to connect up the suburban services of the main line companies. The main routes concerned are two, from near Finsbury Park and Wembley respectively, to a point south of London Bridge; a North-South tunnel from Finsbury Park to Loughborough Junction; a tube from East Croydon to the L.N.E.R. Hatfield and Cuffley lines; and a tube from Raynes Park, on the Southern Railway, to Clapton and the L.N.E.R. Chingford branch.

If these tubes are built we can expect a considerable reduction in the volume of suburban traffic to be handled at the main line termini. The consequent structural alterations which become possible are as follows:—

Marylebone.—At Marylebone virtually no alterations are likely to be required. The existing four platforms are well laid out, and will be fully adequate for the

traffic if some of the suburban trains are diverted to the new Tube routes.

Kings Cross.—The main drawback of the site is the cramped space between the southern entrance to the Gas Works Tunnel and the Euston Road frontage. On the assumption that we shall be confined to the present site and shall have to continue to cater for both main and suburban services, the L.N.E.R. Board has provisionally approved a design for a new station frontage, with an improved concourse and a more dignified appearance from the Euston Road.

If, however, electric traction is envisaged for all services entering the station, it might as an alternative be possible to reconstruct the entire station area as a two-storied building, the lower storey accommodating the platforms and the tracks on very much the same layout as at present, and the upper storey providing a clear span over the whole station area, to provide for booking and inquiry offices, cloakrooms, shops, a Post Office, restaurants, refreshment rooms, and so on.

Liverpool Street.—It will indeed be a happy day when the last steam train is banished from Liverpool Street, because until then it will be difficult to effect much in the way of drastic structural improvement to that station. However, I am quite sure that if some of the suburban traffic could be drawn off to a new Tube system (as will in any case happen to a small extent when the Central Line extension to Ongar is opened), it will be possible to ease the pressure on Liverpool Street sufficiently to provide for a minor rearrangement of the facilities there, which will add considerably to passenger comfort.

Fenchurch Street.—I feel diffident about saying anything on the subject of Fenchurch Street since this is a joint station with the L.M.S.R., and my friend, Sir William Wood, may have views on the subject. I can safely say, however, that the tracks and platforms were efficiently re-planned some years ago, but the architectural style of the station still leaves a good deal to be desired. As in the case of Liverpool Street, however, I would deplore any proposal to demolish the station and remove it either further west or further east.

Future Station Amenities

Apart from alterations to the location of terminal stations in the future, the railway companies are very alive to the desirability of effecting improvements in the amenities of their stations whether terminal or lineside.

Much can be done in the way of minor improvements at stations where complete rebuilding is unjustified. On the L.N.E.R. we have established a system of Station Improvement Committees, which are doing really notable work. Representatives of all the departments concerned attend and go over the station selected for attention with a fine-tooth comb. Each member of the party notes down the items requiring attention which concern his own department. The rectifying of these minor items generally involves only a trifling cost, but the total improvement in the comfort and appearance of the station is enormous.

I have tried in this address to indicate some of the ideas and plans which the present generation of railway managers have formulated. Whether under private or State ownership, there is no doubt that the replanning of our railway stations is going to afford a most extensive field for new ideas in the future.

* Abstract of presidential address by Sir Charles H. Newton to the Railway Students' Association on November 13

L.M.S.R. Train Services: The Position Today

We publish in full the following statement which was issued last Friday to the Press from L.M.S.R. Headquarters, Watford. The subject is discussed in an editorial article on page 543

IN some important respects conditions on the L.M.S.R. at the present time are more serious than at any time during the war years except after intense local bombing, such as at Coventry and London. It is a regrettable state of affairs, for the company, no less than the public, was hoping that services by now would be restored to something approaching the peacetime standard. The circumstances are, however, outside the company's control, and although additional trains and amenities have been provided, and the efforts of the staff are unceasing, the prospects for the coming winter and thereafter are disquieting. It is desirable, therefore, that the public should be informed of the facts so that they can understand what the position is.

Before the war the L.M.S.R. had been brought to a high state of efficiency, and thus was able to bear the brunt of the transport burden of the war. During those six years the machine was driven at full speed with the minimum of attention to maintenance and repairs, and it is not surprising that in 1945 the railway required a complete overhaul.

The company set about this task at once, for it was obvious that until the arrears had been made good, it would not be possible completely to restore normal services, or to give effect to the considerable improvements which the company had decided to introduce after the war.

Today, 18 months after the end of the war, the L.M.S.R. is still at the stage of grappling with arrears of repairs and new construction, and of restoring services as far as these conditions will permit. But external difficulties now threaten to make impossible any completion of this phase of the work within a reasonable period of time, and as there is a limit to which the arrears can with safety be deferred, without considerable dislocation of services, the seriousness of the matter will be apparent when it is stated that this limit has now practically been reached. That is the prospect now facing the L.M.S.R.

The Track

There are 19,000 miles of track on the L.M.S.R., which is more than one-third of the mileage of the whole country. At present prices; and including signalling, this requires £12 millions a year to maintain. But in the seven years since war broke out it has not been possible fully to maintain the track; even now the normal rate of expenditure has not been attained, and some £14 millions of work is in arrear. This means that £26 millions would have to be spent in the next 12 months to restore the lines to standard condition. That is not possible for two reasons. First, to spend this amount of money, representing 26 months' normal work in one year, it would be necessary for extensive periods to shut down lines which are used throughout the 24 hours of each day for essential passenger and freight services. Secondly, neither the materials nor the manpower is available to permit of this.

With these conditions, there is necessarily a series of minor faults which causes delays to both passenger and freight trains. Some of them are due to the need for the engineers to impose speed restrictions on running lines, or to close sections of the line for some hours, usually on Sundays, to put in entirely new track; other delays are due to failures of signal or point equipment; others because of work in progress in tunnels or on bridges, or to the effect of accumulated drainage difficulties requiring work at particular

points. In the last four weeks, lines were blocked for 14 hr., and in addition 68 hr. were lost by trains having to run at reduced speeds, owing to rail failures. These conditions are likely to last throughout the winter, but during next year the shortage of sleepers will, for safety reasons, probably require a slowing down in train speeds on various lines for the first time in many years. At two places on the main line into St. Pancras, such restrictions are now having to be imposed.

The Locomotives

The stock of locomotives available for traffic requires to be made up of the right types and numbers to meet the differing requirements. During the war it was necessary to concentrate the limited workshop capacity available on the building of heavy freight locomotives, with the result that the building of the different types of passenger and general utility locomotives could not be undertaken. The effect of this is being felt now, and in addition the number out of service for repair is higher than it should be. Locomotive failures are becoming more frequent; a typical example is the total for the last four weeks, during which period there were 344 mechanical failures of locomotives compared with 153 for the same period in 1939.

The poor quality of coal now being supplied is an additional cause of delay; so far this year there has been an average of ten cases daily of serious loss of time caused by locomotives being short of steam due to bad coal. Locomotive coal is graded in three qualities, and whereas before the war the L.M.S.R. was obtaining 21 per cent. of grade 1 coal, it is now obtaining only 12 per cent. The grade 3 quality provided 39 per cent. of the total before the war, but now it is 48 per cent., and this includes screened and unscreened opencast coal and briquettes, whereas before the war the whole was deep-mined. Moreover, the quantity is steadily diminishing; at present the L.M.S.R. has less than one week's supply in stock, and this is being lifted at an increasing rate.

Rolling Stock

As regards carriages, the company has now about three years' work to make good arrears of repairs and new construction, representing an expenditure of £10 millions. There are 1,840 carriages fewer than at the outbreak of war (including a considerable shortage of corridor coaches), although the traffic to be moved is substantially greater. The trouble is to obtain materials, and the prospects are not encouraging.

One of the greatest difficulties, particularly this winter, is with wagons. All railway-owned and privately-owned wagons are now pooled, and the total effective stock in the country is 12½ per cent. less than it was in 1939, largely due to the fact that 175,000 are under and awaiting repair, which is about twice the number it should be if conditions were normal. The number of wagons available to the L.M.S.R. is correspondingly reduced, making it difficult to supply collieries and traders with wagons to move their traffic. The repair organisation is working at full strength, but, because of abnormal war use, wagons are deteriorating faster than the repairs can be overtaken by the workshops.

The L.M.S.R. winter train service, which was introduced from October 7, was planned to incorporate many accelerations and additional services to meet the public wish

for improved facilities. The new timetable was a drastic revision of the one which applied in the winter of 1945-6, and was partly based on the 1938-9 winter service. The numerous alterations involved the re-timing of practically every train, and to make alterations on this scale requires several months of work in timing changes, and in altered working of locomotives and carriages, locomotive crews and guards. It could not, of course, have been foreseen so far ahead that exceptional difficulties would be encountered when the timetable was actually brought into operation.

Operating Staff

At the end of August, 1946, the Essential Work Order was withdrawn from the railways, and whilst this has not seriously affected the L.M.S.R. on large parts of its system (though it has so far meant the loss of 6,055 operating staff on the system as a whole), it has, however, had a most unfortunate effect in the London area, and as far north as Wellingborough, and in the Birmingham and Coventry areas. This is because in London and Birmingham there is a general shortage of labour, and at the same time a great difficulty in obtaining houses and billets for staff transferred to make up the deficiency.

In London, between August 31 and October 19, the L.M.S.R. lost 624 members of its experienced operating staff through resignations, and there is now an acute difficulty in providing staff to work all the trains required. The Government is being asked to assist in providing housing accommodation for transferred staff, and it is hoped that this will ease matters. The difficulties with coal supplies, track failures, and rolling stock have been mentioned already. All these factors have affected the timekeeping of the passenger services, and the standard of punctuality, although higher than last year, has not reached the level hoped for when the new timetable was introduced. Freight services also are being retarded, with consequent congestion, and the acceptance of traffic from traders is having to be regulated in some areas.

The Prospects

The L.M.S.R. Company is not at all satisfied with conditions on the railway as they are today, and although the prospects do not offer much hope for an immediate improvement, particularly if bad weather comes this winter, everything possible is being done to obtain the assistance which is needed to put matters right and to prevent the situation getting any worse. The company therefore expresses its regrets to the public, to whom it feels that this explanation is due.

BRITISH MACHINE SHOP EQUIPMENT IN CENTRAL AND SOUTH AMERICA.—Mr. A. G. Noble, A.M.I.Mech.E., M.I.Loco.E., who is visiting Central and South America on behalf of fifteen British engineering companies covering a wide range of machine shop equipment, starts from the River Plate this month, working northwards, and expects to reach Venezuela, and subsequently Mexico, in June-July, 1947. Mr. Noble, who recently was appointed General Manager (Latin American Sales) for the B.E.S.T.E.C. Group (British Engineers' Small Tools & Equipment Co. Ltd.), also is covering the interests of a number of associated companies. The B.E.S.T.E.C. Group consists of a number of manufacturers of precision equipment, each of whose products do not compete with those of other members of the group; each manufacturer in the group, however, is specialised for the supply of products within his own field.

Oil-Fuel Burning on Locomotives

Some practical aspects of oil firing with special reference to its application in South America

By Thompson Fairless, A.M.I.Mech.E.

AMONG the advantages of the use of oil fuel for locomotives is the high heating value per pound of fuel and ability to work the locomotives at maximum capacity for sustained periods.

Locomotives having either Belpaire or round-top fireboxes have been successfully converted from coal to oil burning without involving any structural alteration, although it is preferable to avoid as far as possible plate joints and riveted projections, and it is recommended that roof-stay heads or nuts should be replaced by a tapered screwed head in the plate, leaving

firepan and firebox plates, because, where open joints occur, the sand used for tube cleaning will work its way behind the brickwork, with undesirable results.

Fig. 1 shows a simple, yet efficient, type of firepan which the writer introduced with satisfactory results on some of the South American Railways. As will be seen, the flame trough at the burner end is narrowed down to the width of air inlet, thus avoiding disturbances to the flame path due to vacuum created in the corners when firepans are made rectangular.

There is still divergence of opinion re-

It is not always possible to accommodate air inlets with doors and operating gear at the sides of the firepan, due to the constructional features of some locomotives, in which case the writer favours a hopper-type opening in the bottom of the firepan, which should not be placed too close to the side sheets, as otherwise cold air may tend to impinge on the sides of the firebox and fail to mix properly with the flame.

Reference to the brickwork of the firepan in Fig. 1 shows an arrangement of draft openings in the sides of the firepan designed to direct the incoming air in the direction of the flame path. Additional air is also provided at the burner and at the firehole door.

The most essential feature of a burner for locomotive work, in addition to its atomising capacity, is reliability and free-

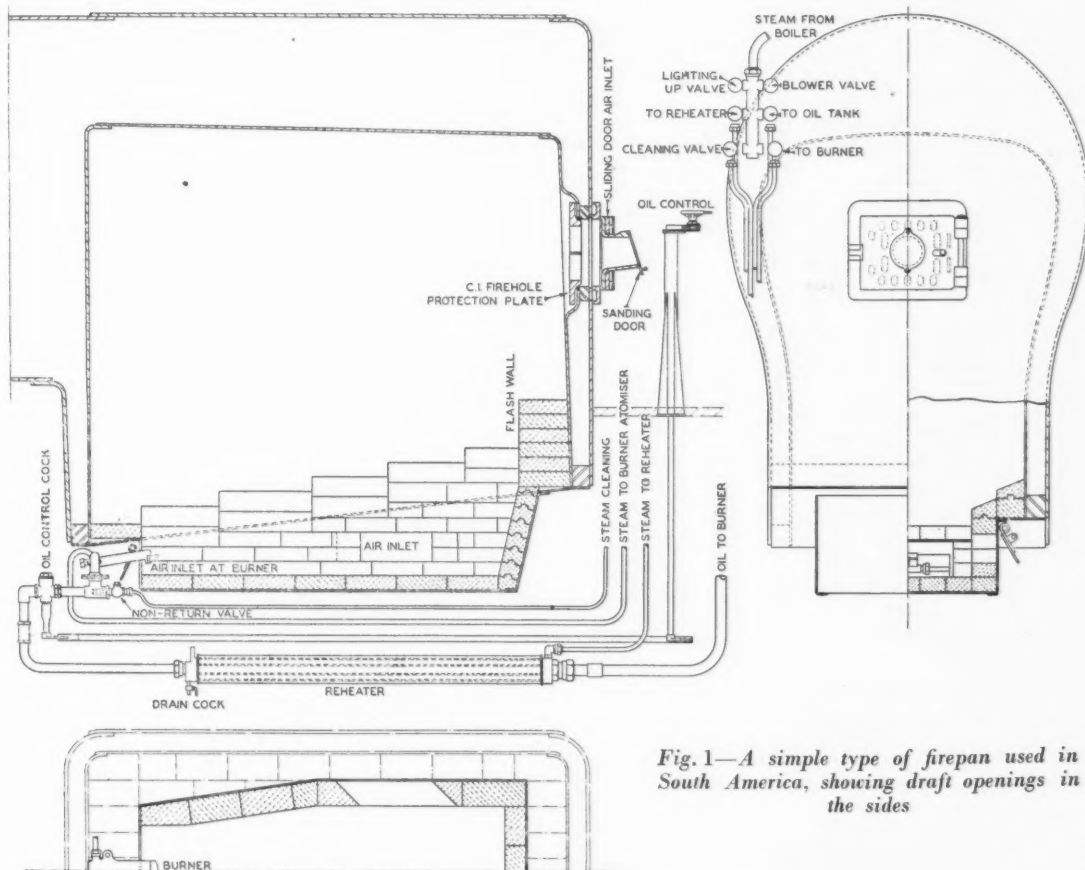


Fig. 1—A simple type of firepan used in South America, showing draft openings in the sides

ing little or no protection within the firebox.

Firepans may be of the steel-plate type, riveted or welded, or of cast steel sufficiently strong and rigid to be free from vibration which would effect the stability of the brick lining, and they should have airtight joints to prevent any loosening of the brickwork and disturbance in the proper combustion of the oil fuel.

Firepans should be of simple and straightforward design, with due consideration to their suitability for proper refractory installation which will permit a maximum of firebox surface being in direct contact with the hot gases; otherwise, loss of valuable heating surface will result. The bricks must be well set against the

guarding the location, proportioning, and design of draft openings. It has been said that large openings are detrimental to proper combustion of the oil fuel, in that they do not produce the amount of turbulence accomplished when a series of small openings are used. Small openings are liable to make up with deposits of unburnt oil to which the sand used for tube cleaning sticks, and unless frequently cleaned the process goes on until the free-air inlet becomes totally disproportionate. The removal of these deposits usually necessitates dismantling the perforated sliding doors, and considerable time is required to clean out the oval or round tubes passing through the brick lining of the firepan.

dom from trouble on the road. Any type of burner incorporating a series of small holes or passages through which the oil has to pass, should be avoided, especially when the oil to the burner is fed by gravity, as is the case with most locomotives.

A Typical Burner

A typical type of burner, the functioning principles of which is used on burners of many railways, is shown in Fig. 2, and is of the external mixing type where the oil and atomising agent—steam—meet at the tip of the nozzle, the corrugated lip projection serving to prevent oil falling past the sheet of steam, while the corrugations are intended to promote atomisation.

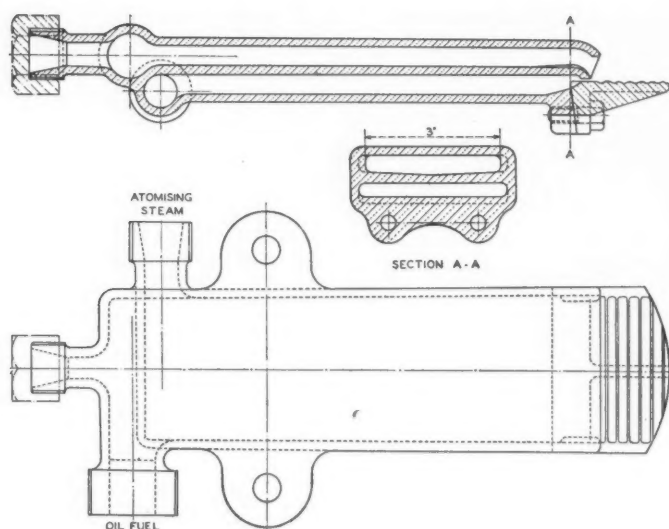


Fig. 2—A typical burner of the external mixing type

The steam jet action imparts velocity to the oil, and accuracy of direction will maintain after the junction of the two fluids, and when mixed with air the fire-box is filled with a soft and voluminous flame which must not impinge in any one place. This can only be attained by correct setting of the burner, and, if necessary, tilting it slightly upwards so that the flame path does not scour the bottom of the firepan, and after reaching the flash wall fills as much as possible the top back portion of the firebox before being drawn towards the tubeplate, the flame being completely extinguished before reaching the tubes.

The burner illustrated is provided with a steam connection at the back of the oil passage, to which, if desired, a permanent steam connection can be made and used to remove obstructions which sometimes cause the flame to be diverted from its path and impinge on the side of the fire-box. On engines where this direct burner-cleaning pipe is fitted, a non-return valve should be placed next to the burner. This steam connection for cleaning the burner is also used on tank engines, where a continuous gravity flow from the oil tank to the burner can be made (Fig. 4), no blow-back arrangement being necessary.

Correct Alignment of Burner

Correct alignment of the burner is essential; otherwise, carbon deposits will be formed wherever the flame impinges. These deposits are sometimes to be found on the flash wall of engines when high firing rates have been made for sustained periods, and under that condition of working are principally due to the inability of the reheater to reduce the viscosity and give the necessary temperature to the oil before reaching the burner. Differences are to be found in the consignments of oil fuel, some being of easier and more complete atomisation than others. Carbon deposits should be removed at the first opportunity.

The heating of fuel oil is generally divided into two distinct phases. The first phase is preliminary heating in the oil tank, and the second phase is heating the oil to its correct burning viscosity and temperature in what is often called the re-

heater, consisting of a steam jacket around the oil pipe leading to the burner placed in the vicinity of the firebox side. This type of reheater is shown in Fig. 1 having

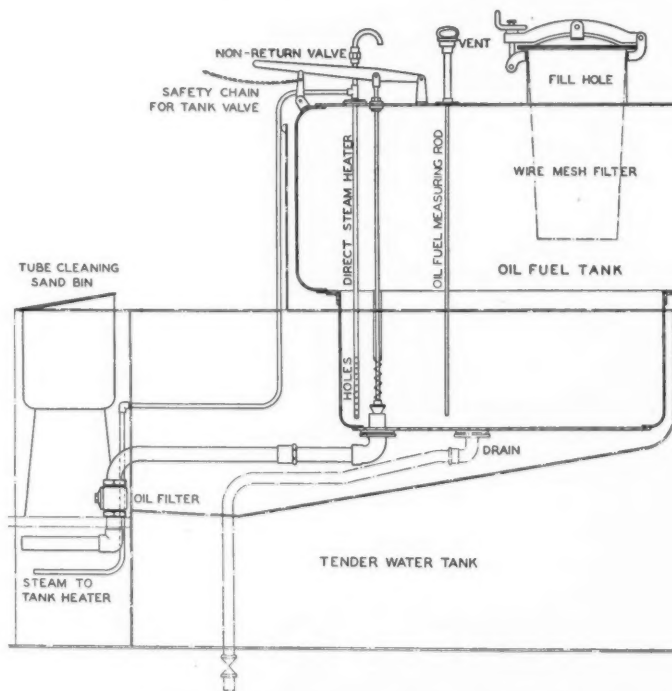


Fig. 3—An arrangement for direct steam heating into the oil tank

the drain cock open to permit a continuous flow of steam when in operation.

The first phase of heating is often attained by the direct system, where steam is jetted directly into the oil tank, the advantage being simplicity of design and operation at the expense of losses incurred in the burning of slightly wet oil emulsions. When using the direct system, no more steam should be admitted than is

necessary, as the water content is an undesirable element which should be drained off at the tank bottom at frequent intervals.

Many attempts have been made to avoid wet oil emulsions by the introduction of indirect heating by means of steam coils placed at the outlet of the oil tank, and although success may have been attained in some quarters, many railways favour the direct system with its attendant drawbacks. Steam coil heaters call for greater attention on the part of the engine crew, and are of necessity hidden from view. Engine failures through improper working or burst coils are not unknown. An arrangement for direct steam heating into the oil tank is shown in Fig. 3 together with other details of oil-fuel equipment.

Attention is drawn to the construction of the oil-fuel tank with its rounded corners, which for locomotive work has been found to be preferable to the square-corner type, these being more susceptible to leakages. Fig. 4 shows an arrangement for a tank engine where there is only one heating phase, this being accomplished by the use of a steam-heated coil fitted to the oil-tank bottom, the heated oil having a direct gravity flow to the burner.

In the conversion of some locomotives from coal to oil burners it has been found that the engines could be made to steam with a minimum of alteration to the blast arrangement, it generally being found that the blast-pipe nozzle could be in-

creased in diameter with satisfactory results.

Fig. 5 shows the general arrangement of the blast equipment for oil-fuel locomotives as used for many years on some of the South American Railways. Within the writer's experience, it has been found that satisfactory results may be obtained when the height of the blast-pipe nozzle is kept low, so that when a theoretical

blast cone is drawn with a taper of approximately 1 in 6, the chimney is filled near the top, the height and diameter of the petticoat pipe being arranged so that an annular space about one inch wide is obtained between the theoretical blast cone and the top of the petticoat pipe, and through which the gases from the lower portion of the tube plate are entrained. The gases from the upper portion of the tube plate converge with the steam cone above the petticoat pipe. Such arrangements have been found to give a low vacuum in the smokebox, coupled with efficient steaming of the engine. Improved efficiency may be attained by the fitting of a suitable "jumper" blast pipe, the exhaust nozzle being provided with three nibs.

Figs. 1 and 4 also show the steam manifold as mounted on the back of the fire-

tank, and also that to the reheater, leaving them open for a sufficient length of time—governed by climatic conditions—before attempting to light up the burner; (6) open oil-tank valve; (7) open blower valve; (8) open steam to burner valve (atomiser) and oil-control valve slowly, and light up by means of a wire cage containing waste soaked in oil attached to a rod, the waste being lighted and passed through the sanding door; the firehole door should be kept shut. At this junction, the heating of the firebox should be proceeded with slowly, and when a boiler pressure of 35-40 lb. of steam is registered, the independent steam supply can be cut and steam to the oil-fuel manifold supplied direct from the engine boiler.

The time for lighting up varies from 2 to 2½ hours, during which strict attention should be given to the combination

the cleaning valve and the oil-control valve, when steam will be blown past the non-return valve (see Fig. 1) through the oil passage of the burner, and at the same time blow back the oil through the pipes to the oil-fuel tank. The oil-tank valve should be closed when the steam is heard blowing into the tank. Close off all valves, finally closing the chimney top, and the engine will be in condition for future lighting up.

Cleaning of Boiler Tubes

Cleaning of boiler tubes is usually done on the road by the use of sand, two or three scoopfuls being passed through the sanding door with the reverse lever near full stroke and the regulator valve wide open, the scoop being moved so that the sand is drawn across the whole of the tube-plate area. Experience in the steam-

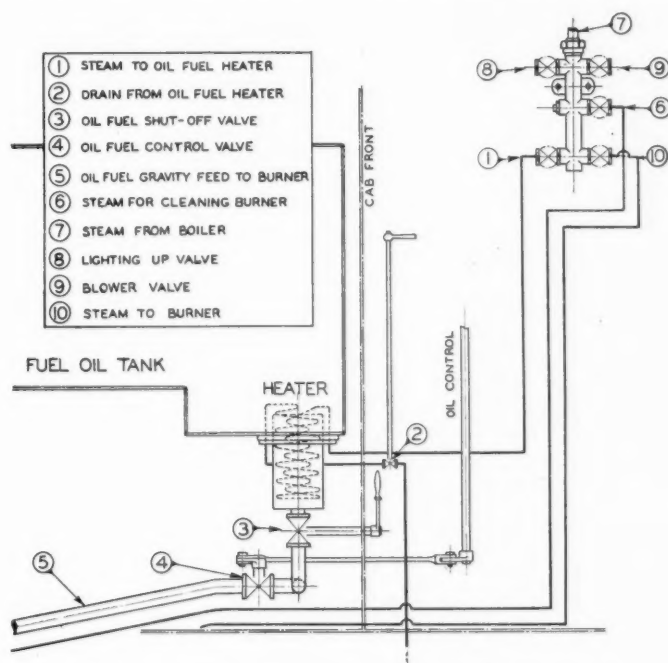


Fig. 4—Arrangement for a tank engine where there is only one heating phase

box, and the uses of the respective valves for oil-burning engines.

The lighting up of an oil-fuel engine is usually accomplished by the use of steam piped from a stationary boiler in the running shed or taken from another engine which is in steam. When neither of these sources are available, a wood fire is made in the bottom of the firepan until sufficient steam pressure is created to heat the oil and provide atomisation at the burner. Before lighting the burner, which is usually accomplished by lighted waste soaked in oil, the blower should be opened wide to clear out gases in the firebox, and the ashes removed from the bottom of the firepan.

The procedure for lighting up an oil-fuel engine where steam is available is as follows: (1) Open the drain cocks at bottom of oil tank and drain off condensation; (2) open drain cock on reheater; (3) connect steam supply pipe to manifold lighting-up valve; (4) open steam valve to burner and drain any condensation, and then close; (5) open heating valve to oil

of oil fuel and atomising steam at the burner, and the adjustment of the air inlets graduating the blower as necessary. Black smoke is an indication of too little air admission or oil fuel too cold, and no smoke is an indication of too much air. Correct burning of oil fuel produces a thin brown smoke at the top of the chimney.

Closing Down Fire

When putting out the fire, the procedure should be as follows: Close the oil-tank valve by releasing the safety-chain lever (the safety chain is attached to the engine cab so that in case the engine and tender become accidentally uncoupled the oil tank valve automatically closes); close oil-heating valves to oil tank and reheater; close oil-control valve; close steam to burner valve (atomiser); close blower valve; close air inlets in firepan and at firehole door.

If the engine is being put out of service, it is necessary to clean out the oil pipes and burner. With the oil-tank valve and the reheater steam valve open, open

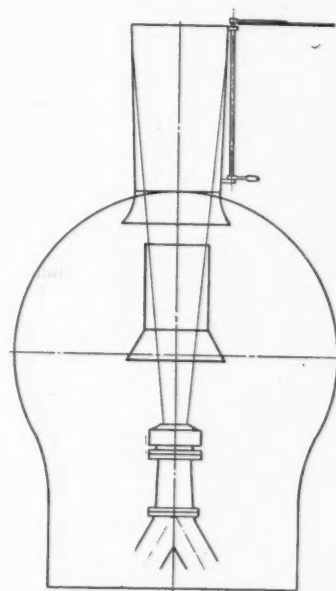


Fig. 5—Blast equipment for oil-fuel locomotives

ing of the engine defines the frequency of tube cleaning.

Satisfactory results have been attained on locomotives provided with air inlets at the burner, firepan sides, and firehole door in such proportions as to provide for complete combustion of the oil fuel under varying conditions from light to heavy working. When the air inlets are provided with means of adjustment—as they should be—correct firing can be gauged at the chimney top.

Provision of air inlet should be made for absolute maximum working conditions, which should not be less than 45 per cent. of the total free-gas area through the tubes, the total air inlet being distributed as follows: 20 per cent. in the front of firepan at the burner; 70 per cent. at sides of firepan; and 10 per cent. at firehole door. Small variations have been brought about by the process of fitting a standard-type firehole door on various classes of engines.

On actual footplate work, the writer has found that the provision of an electrical pyrometer fitted in the smokebox, with a large-size dial in the cab, has resulted in interest being shown by engine crews in their attempts to keep down smokebox

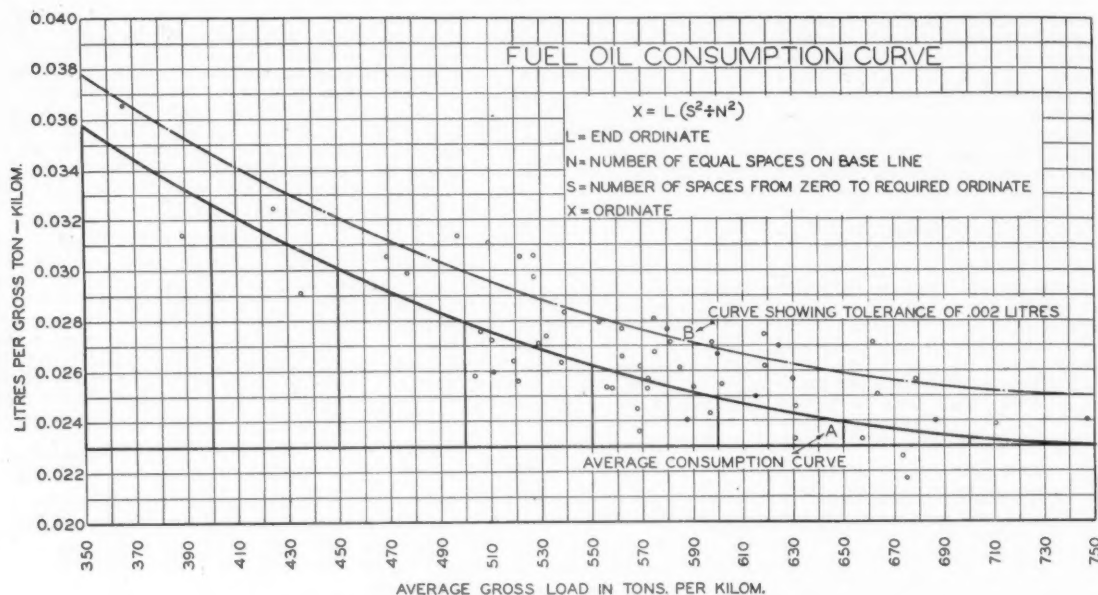


Fig. 6—Fuel oil consumption curves for various classes of engines

temperatures and burn the oil fuel to the best advantage. Interest may also be stimulated by the knowledge of results obtained in the working of oil-fuel engines. To this end, the writer formulated average consumption curves for various classes of engines, these curves being plotted from known performances, and in each case it was found that the average consumptions relative to the corresponding gross loads could be plotted to conform to $x = L$

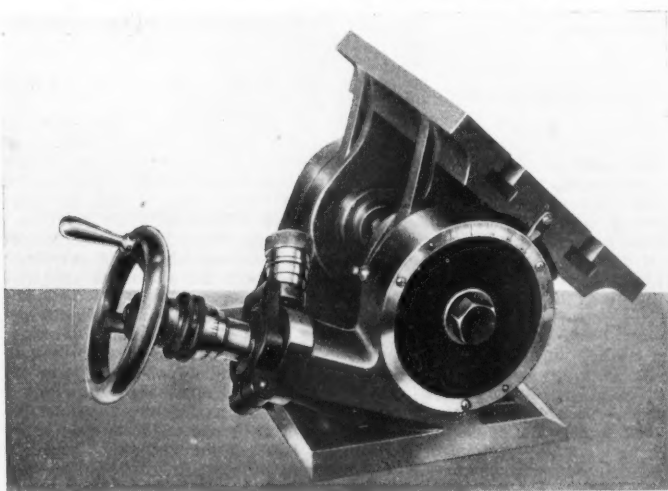
$(S^2 \div N^2)$ as is shown in Fig. 6, above. As will be seen, the consumption in litres per train-kilometer is readily found by multiplying the gross weight of train by litres per gross ton-kilometer. The results attained by drivers over a period of working may be plotted as indicated by the dots, all cases above curve B being considered bad, between curves B and A satisfactory, and those below curve A as good. This method of grading results can only

be justly applicable where engines and services are pooled.

In conclusion, the successful working of oil-fired engines can only be attained by strict observance of routine and careful handling of equipment, avoiding the production of black smoke; and the fireman must be alert to the opening and closing of the regulator valve by the driver, adjusting his fire to the working of the engine, and the demand for steam.

Angle Plate for Machine Tools

A worm-operated device for accurate adjustment of work



A HIGH degree of accuracy in the setting up of work on milling machines, planing machines, and other machine tools is made possible by the "Marlco" worm-operated angle plate illustrated herewith, which is graduated for movements down to 5 min. of arc. The maker is W. H.

Marley & Co. Ltd., New Southgate Works, 105, High Road, London, N.11.

The drive from the handwheel to the table is through a worm of hardened steel running in an oil bath. Means are provided for rapid engagement and disengagement with the worm wheel, and for taking

up backlash. The semi-circular scale shown in the illustration is graduated from 0 deg. to 90 deg. for clockwise rotation, and from 0 deg. to 30 deg. anti-clockwise.

In addition, the sleeve behind the handwheel is calibrated with four main divisions, each representing 1 deg. of movement of the table, and these are subdivided with 12 intermediate calibrations for adjustment to 5 min. Rotary adjustment of the sleeve is provided for lining up with the zero mark on the semi-circular scale if necessary.

Hand-Scraper Finish

The table, base, trunnions, and worm-wheel are of Meehanite, and the table hinges on 2-in. dia. steel trunnions. The wormwheel has a large diameter cone on its inner face, which fits over a corresponding face on the body. Both faces are hand-scraper finished, and their engagement is adjustable by means of a nut on the trunnion so that backlash can be taken up, and the bearing is, in effect, indestructible. All working faces are accurately finished and hand scraped, and are lubricated through easily accessible Tecalemit lubricators.

A hardened steel insert on the under side of the table comes into contact with an adjusting screw on the base when the table is at 90 deg. from the horizontal. This adjustment is set accurately and locked at the works. The accuracy of setting of the table in any position is within 0.001 deg.

G.W.R. Standard Third Class Coaches

New vehicles, 64 ft. in length, provide more spacious compartments and have been designed with special attention to decoration and lighting

AMONG the new and redecorated G.W.R. main-line vehicles exhibited at Paddington on November 5, as reported last week, was one of the new standard third class coaches which are now going into service. These vehicles, which are 8 ft. 11 in. wide at waist, 63 ft. long over corners, and 64 ft. long over the ends, are the longest coaches yet built which are capable of running over all the principal lines in this country. An alteration has been made, also, to the cross-sectional profile of the coach, which, besides providing a more spacious interior at floor level and increased roof height, permits a very economical conversion of timber in the production of the timber coach body pillars. The tare weight of the coaches is 32 tons 5 cwt.

The underframe, which is mounted on pressed-steel double bolster bogies, with 9-ft. wheelbase, is constructed of rolled steel sections, riveted together and fitted with the G.W.R. standard buffing and drawgear. The coach body is assembled directly on the steel underframe, which is fitted with steel brackets to receive the pillars; the top ends of the pillars are accommodated similarly in steel brackets welded to the steel cant rails, which form the foundation of the roof. The floor, which is assembled directly on the underframe, is formed of two thicknesses of laminated wood, treated with fire-resisting paint, between which is inserted a layer of asbestos to provide additional resistance to fire, and to minimise the transference of noise into the compartment. This form of body construction, besides increasing the strength of the coach body, eliminates the large timber members hitherto required for certain parts of the body framing.

The outside of the vehicle is completely sheathed in mild-steel panels screwed to the timber framing, and is fitted with the suspension type British Standard gangways. It will be noticed that the destination boards are carried in brackets above the windows instead of on the roof. There are eight compartments in the coach, each 6 ft. 2 in. wide, providing seats for 64 passengers, and lavatories are situated at both ends. By reason of the additional length, together with the new end shape, it has been possible to provide more generous end vestibules. Four doors are fitted on both sides of the coach, two at the ends communicating with the vestibules, and two intermediately. Those on the compartment side provide direct access to two of the compartments, and in con-

junction with the intermediate corridor doors, avoid undue congestion at the ends of the vehicle.

Interior Appointments

The compartments are decorated with upholstery of maroon and blue figured moquette, with panelling of plywood veneered with red satinay. African cherry and Australian maple have been selected for the panelling of other coaches of this type. Maroon fabric curtains are provided at the large observation windows fitted to all compartments with the exception of those provided with side doors. Blinds of blue leather cloth are fitted to the windows on the corridor side of the compartment, and the floor is covered with blue jaspé linoleum.

A notable feature of the compartments is the absence of the conventional luggage-rack brackets, the front of the rack being carried on a specially extruded aluminium alloy section faced with hardwood to match the panelling. The elimination of the brackets enables a clean effect to be given to the compartment partitions above the seats, which have polished panels, with an inset mirror on each side of which are photographs showing beauty spots served by the company.

The interior compartment roof, which is painted with a matt finish, is formed of deep covings extending from the sides to meet a recessed centre panel extending across the compartment. All metal fittings in the compartment are bronze plated.

An attractive and hygienic appearance is given to the lavatories, which are decorated in cream and green, the walls having a cream Cellon finish with narrow horizontal strips in pastel green inset in the panels; the floor is laid with mottled tiles in two colours, toning with the general colour scheme. The pedestal washbasin and lavatory pedestal are in primrose, and a soiled-linen basket of green anodised aluminium is provided. A large mirror

and glass towel tray are fitted above the washbasin, and an electric light fitting is situated above the mirror. The light and clean appearance is enhanced by the absence of pipes and other fittings, which are all concealed behind the wall panels, as is the redesigned water heater from which hot water is supplied to the washbasin. With the exception of the water taps, all fittings are bronze finished.

The corridors and end vestibules are panelled throughout in red satinay, and the floor covered with jaspé brown linoleum. Compartments are heated with the company's standard system of steam heat-

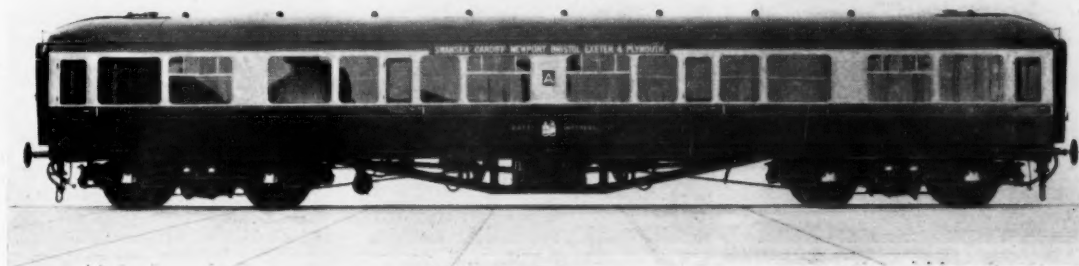


Interior of compartment

ing, a radiator being provided under each seat; a heater inset in the body side, and covered with a bronze ornamental grille, provides heat for the lavatories.

Fluorescent Lighting System

Special attention has been given to the lighting of the new coaches, and with the co-operation of the British Thomson-Houston Co. Ltd. a new system of fluorescent lighting has been introduced. Two lighting tubes enclosed in plastic shades are fitted to the ceiling of every compartment, and are supplied with current by a 120-volt, 400-cycle, motor-alternator operated from the usual train lighting generator and battery.



General view of new G.W.R. third class main-line coach

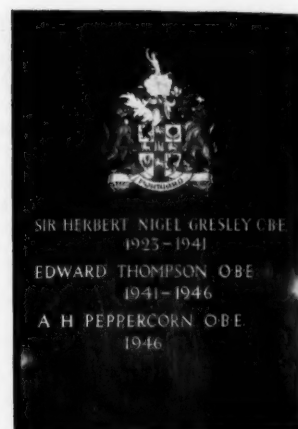
Locomotive Engineers of the L.N.E.R.

Commemorative panels in the Chief Mechanical Engineer's offices at Doncaster

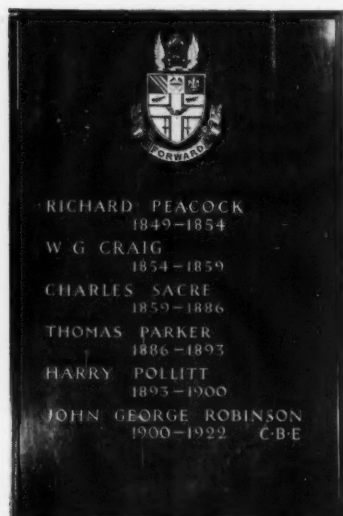
SEVEN panels bearing the names of the Chief Mechanical Engineers of the L.N.E.R. and of its constituent companies back to the years of their inception, have been erected in the entrance hall of the Chief Mechanical Engineer's offices at Doncaster. Every panel carries the crest of the company concerned, and shows the dates between which the Chief Mechanical Engineers held office. The six panels relating to the constituent companies are illustrated. The seventh panel is for the L.N.E.R. group, of which the Chief Mechanical Engineers since 1922 have been Sir Herbert Nigel Gresley (1923-1941), Mr. Edward Thompson (1941-1946), and the present C.M.E., Mr. A. H. Peppercorn.

It will be seen from the panels of the pre-grouping companies that the Great

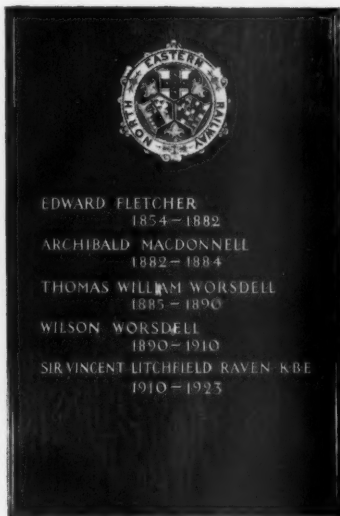
Northern Railway had only four Chief Mechanical Engineers throughout the period 1850-1922, or two less than the only company in the group that can record an earlier appointment, namely, the Great Central Railway (originally Manchester, Sheffield & Lincolnshire), with Richard Peacock in 1849. It will be noted, also, that apart from the Great Northern and the Great Central, the other four constituent companies all date back to the three years between 1854 and 1856. The panels provide a handsome and appropriately situated record of personalities in the mechanical engineering history of the L.N.E.R. group, and include many names which are familiar as landmarks in the development of the railway locomotive, considered generally rather than as the product of a particular company.



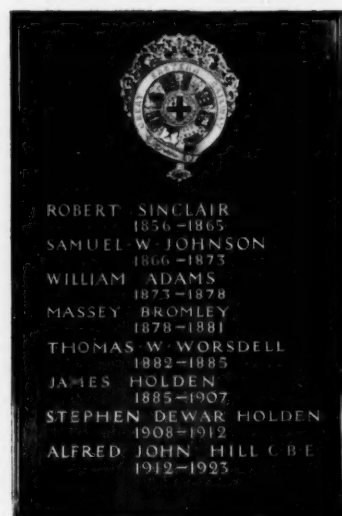
London & North Eastern Railway



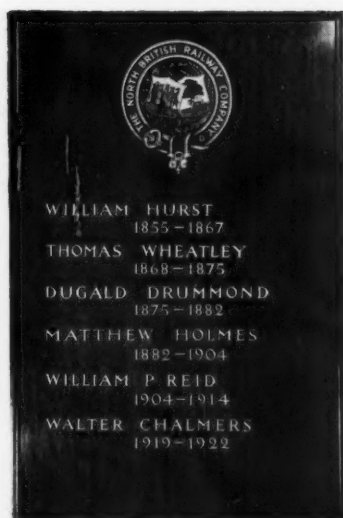
Great Central Railway



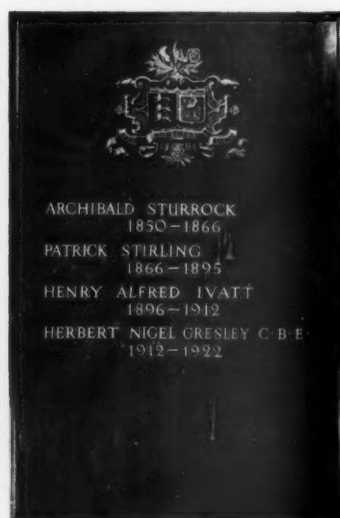
North-Eastern Railway



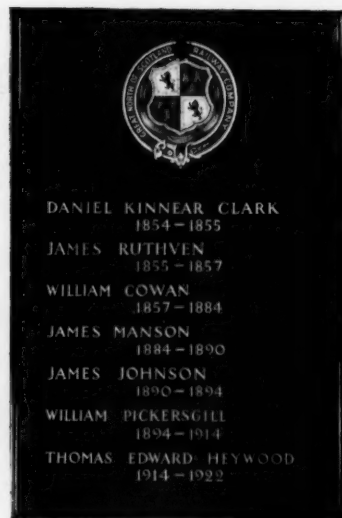
Great Eastern Railway



North British Railway



Great Northern Railway



Great North of Scotland Railway

RAILWAY NEWS SECTION

PERSONAL

Mr. George Hodge, O.B.E., Manager of the Department of Personnel, Canadian Pacific Railway, since 1931, has retired.

Mr. R. C. Bond, M.Inst.C.E., M.I.Mech.E., M.I.Loco.E., Mechanical Engineer (Locomotive Works), L.M.S.R., who, as recorded in our November 1 issue, has been appointed Deputy Chief Mechanical Engineer, served his apprenticeship and pupilage at Derby Locomotive Works from 1920 to 1925. From 1925 to 1928 he was Works Inspector in charge of the inspection of locomotives under construction for the L.M.S.R. by locomotive-building firms. In 1928 he left the railway service and was appointed Assis-

the District Superintendent's Office, Western Division, Glasgow, whence he later was appointed to the department of the Superintendent of the Line in Edinburgh. On the institution of a District Traffic Office in Edinburgh, Mr. Angus was transferred to the charge of the Excursion & Special Trains Department in that office. Later he had charge of the Rates & Fares Section of the Commercial Superintendent's Office for about two years and was Railway Clearing House representative during that period, before assuming control of the General Section in the same department. In 1928 he was made Chief Assistant to the Passenger Manager, Southern Scottish Area, and in 1932 was appointed District Goods & Passenger Manager, Edinburgh.

Company at Schenectady, New York, since 1941, has been appointed Vice-President in charge of Production Engineering. Mr. Raymond J. Finch has been appointed Chief Mechanical Engineer.

Mr. W. Stewart is resigning his Directorship of Stewarts and Lloyds Limited on November 30 next, on which date he will have completed 49 years' service with the company.

Mr. G. M. Vibart, O.B.E., A.M.I.Mech.E., has been appointed to the newly-created post of Overseas Representative of the Locomotive Manufacturers' Association. He was trained at Swindon Locomotive Works, Great Western Railway. He has been for thirteen years with



Mr. R. C. Bond

Appointed Deputy Chief Mechanical Engineer, L.M.S.R.



Mr. J. M. Fleming

Appointed District Goods & Passenger Manager, Edinburgh, L.N.E.R.



Mr. G. M. Vibart

Appointed Overseas Representative, Locomotive Manufacturers' Association

tant Works Manager of the Vulcan Foundry Limited Locomotive Works, occupying that position for three years. During 15 months of that period he was in India in charge of a contract for the mechanical parts of electric locomotives for the Great Indian Peninsula Railway main-line electrification. In 1931 he returned to the L.M.S.R. service, when he was appointed Assistant Works Superintendent, Horwich. In 1933 he became Assistant Works Superintendent, Crewe Locomotive Works. In 1937 he was made Superintending Engineer of the joint L.M.S.R. & L.N.E.R. Locomotive Testing Station, and on the outbreak of war in 1939 he was appointed Acting Mechanical & Electrical Engineer, L.M.S.R., Scotland. He became Works Superintendent (Locomotives), Crewe, in May, 1941, and Mechanical Engineer (Locomotive Works) in February this year. Mr. Bond is a Member of Council of the Institution of Locomotive Engineers.

Mr. H. B. Angus, who, as recorded in our October 18 issue, has retired from the position of District Goods & Passenger Manager, Edinburgh, L.N.E.R., entered the service of the North British Railway in 1896 as a clerk. After about three years at various stations he was transferred to

Mr. J. M. Fleming, District Goods & Passenger Manager, Peterborough, L.N.E.R., who, as recorded in our October 18 issue, has been appointed District Goods & Passenger Manager, Edinburgh, was educated at Christ's Hospital, Horsham, and Clare College, Cambridge, and entered L.N.E.R. service in the Scottish Area in 1928 as a traffic apprentice. He went to the Goods Manager's Office, Glasgow, in 1932, and from 1933-38 served in the Chief General Manager's Office, Kings Cross. Mr. Fleming was Assistant to Locomotive Running Superintendent, York, from 1938-41. He then became Acting Assistant District Superintendent, Hull, and in 1942 was appointed Head of Works Section, Chief General Manager's Office. He was made Acting District Goods & Passenger Manager, Peterborough, in December, 1943, and was confirmed permanently in that post in 1945.

Mr. R. H. Edwards, Divisional Docks Engineer, Barry Docks, Great Western Railway, has been transferred from associate membership to full membership of the Institution of Civil Engineers.

Mr. Sherman Miller, Chief Mechanical Engineer of the American Locomotive

the Chief Mechanical Engineer's Department, Buenos Ayres & Pacific Railway; after several years in its locomotive workshops at Junin, he was transferred to the running branch, and he was appointed Assistant Running Superintendent in 1938. On volunteering for military service from Argentina, Mr. Vibart was granted a direct commission in the Royal Engineers. He saw most of his service with the Transportation Directorate, H.Q., 21 Army Group, and for his work there, which was in connection with locomotive requirements and maintenance, he was made an O.B.E. (Military Division). He was promoted to the rank of Lt.-Colonel, and was for some time the Senior Mechanical Officer of the Hamburg regional railway control team. Latterly he rejoined the Transportation Directorate, Rhine Army, as an Assistant Director.

We regret to record the death on November 5 of Mr. Charles Rodgers, O.B.E., B.Sc., B.Eng., M.I.Mech.E., M.I.E.E., Deputy-Director since 1935 of the British Electrical & Allied Manufacturers' Association, aged 71.

Mr. James C. Jones, hitherto Chief Mechanical Engineer, has been appointed General Manager of the Paraguay Central



Mr. T. P. Strafford

Appointed District Operating Manager, Crewe, L.M.S.R.



Mr. Charles Corps

Appointed District Goods Manager, Middlesbrough, L.N.E.R.



Mr. J. W. Dunger

Appointed Assistant to Passenger Manager (Train Services), Southern Area, L.N.E.R.

Railway. Mr. Charles J. Miller, Traffic Manager of that railway, has been appointed Assistant General Manager in addition to his duties as Traffic Manager.

We regret to record the death at Santiago, Chile, on November 9, of Mr. Bertram Norton, Local Representative in Chile, and at one time General Manager, of the Taltal Railway.

Mr. T. P. Strafford, District Controller, Carlisle, L.M.S.R., who, as recorded in our November 1 issue, has been appointed District Operating Manager, Crewe, joined the L.N.W.R. in 1919 as a probationer. After experience in the Commercial and Operating Departments at numerous stations, in the District Goods Manager's Office, Broad Street, and the District Superintendent's Offices, Euston and Manchester (Exchange), he was transferred, at the time of the amalgamation, to the Control Office, Kentish Town. After occupying various posts in control offices and divisional offices, he held appointments as Assistant District Controller at Barrow-in-Furness (1931-32), at Chester (North Wales & Joint District) (1932-36), and at Liverpool (1936-38). Early in 1938 Mr. Strafford took charge of the Trains Office, Euston, under the Divisional Superintendent of Operation, Crewe; and he remained in that position until January, 1940, when he was appointed District Controller, Rowsley. In March, 1944, he became District Controller, Carlisle.

Mr. Charles Corps, Assistant District Superintendent, Hull, L.N.E.R., who, as recorded in our October 18 issue, has been appointed District Goods Manager, Middlesbrough, joined the N.E.R. in the District Superintendent's Office, Middlesbrough, was transferred later to the Goods Manager's Office, York, and in 1913 was selected for special training as a traffic apprentice. Mr. Corps subsequently held posts as Assistant Stationmaster, Malton, and Relief Stationmaster, York and Newcastle Districts, and, after service in the Staff Section, Superintendent's Office, York, served as Chief Staff Clerk, District Superintendent's Office, Leeds, and subsequently

in a similar capacity at Sunderland. He was appointed Stationmaster, Thirsk, in 1923; Yardmaster, Hull Mineral, in 1924; Yardmaster & Staiths Superintendent, Duntun-on-Tyne, in 1927; Goods Agent, Newcastle-on-Tyne, in 1934; and Dock Superintendent, Eastern Docks, Hull, in 1937. Mr. Corps became Assistant District Superintendent, Hull, in 1945.

INSTITUTE OF TRANSPORT AWARDS

The Council of the Institute of Transport has made the following awards in respect of papers presented to the Institute during the year 1945-46 and outstanding performances at the 1946 examinations:—

Railway Companies' Association Awards (for Graduates and Students): (1) to Mr. E. S. Hutchins (Graduate), Buenos Ayres Great Southern and Western Railways; (2) to Mr. A. R. Smith (Graduate), L.M.S.R., Manchester.

Road Transport (Passenger) Award: to Mr. H. A. Curnow (Associate), Kilburn Polytechnic.

Bristol & White-Smith Air Transport Medal: to Group-Captain P. S. Foss, O.B.E., A.M.Inst.T., formerly School of Air Transport, Bournemouth.

Bristol & White-Smith Air Transport Award (for Students): to Mr. G. E. Smith (Student), South African Railways & Harbours.

Bristol & White-Smith Air Transport Award (Overseas): to Mr. C. A. Butler, A.M.Inst.T., Butler Air Transport Company, New South Wales.

Dock & Harbour Authorities' Association Award: to Mr. A. G. Course, A.M.Inst.T., Port of London Authority.

Dock & Harbour Authorities' Association Award (for Graduates and Students): to Mr. S. Cox (Student), Manchester Ship Canal Company.

Sir Alfred Read Award: to Mr. A. Watson, M.B.E., A.M.Inst.T., Chamber of Shipping of the United Kingdom.

Institute 1944 Award: to Mr. G. Dickinson, A.M.Inst.T., McNamara & Co. Ltd.

Graduate Award: to Mr. G. A. Crocker, South African Railways & Harbours.

Student Award: to Mr. H. F. Andrews, Southern Railway, London.

"Modern Transport" Award: to Mr.

R. G. Mair (Graduate), George Ewer & Co. Ltd, London.

Associate Membership Examination Prizes: (1) to Mr. R. E. G. Brown, Traders' Road Transport Association; (2) to Mr. G. Pullen, Widnes Corporation Transport.

Graduateship Examination Prizes: (1) to Mr. R. I. Cowan, Ed. Nicholson Limited, Liverpool; (2) to Mr. A. G. Yates, Aplin & Barrett Limited, Yeovil.

Sir Alfred Read Examination Prize: to Mr. R. I. Cowan, Ed. Nicholson Limited, Liverpool.

Mr. J. W. Dunger, Head of the Train Services, Timetable & Special Traffic Section, Passenger Manager's Department, Southern Area, L.N.E.R., who, as recorded in our November 8 issue, has been appointed Assistant to Passenger Manager (Train Services), Southern Area, joined the Great Northern Railway as a probationary clerk in 1904 and served at various stations and offices in the London and Lincolnshire districts until 1915, when he was released to join H.M. Forces. He saw commissioned service in France and Flanders from 1916-19. On his return he was appointed to the Office of the Superintendent of the Line, G.N.R., and in 1923 was transferred to the personal staff of the Passenger Manager, Southern Area, L.N.E.R. As a member of the All-Line Passenger Train Subcommittee since 1923 he has been associated with all major improvements to passenger train services, and for several years was the Passenger Manager's representative in charge of the "Northern Belle" cruise train. Since December, 1942, Mr. Dunger has been Head of the Train Services, Timetable & Special Traffic Section of the Passenger Manager's Department, Southern Area.

We regret to record the death on November 10, after an operation, of Mr. Frank William Carr, Mechanical Engineer, Stratford, L.N.E.R. The funeral service and cremation took place at Golders Green on November 13.

We regret to record the death of Mr. J. J. Pelley, President of the Association of American Railroads.

Rail and Road Co-ordination Factors

Mr. Roger Sewill replies to Mr. Strauss

Mr. Roger W. Sewill, Director of the Road Haulage Association, and Road Chairman of the Road-Rail Control Conference, at a press conference on Friday last answered a number of points made by Mr. G. R. Strauss, Parliamentary Secretary to the Ministry of Transport, in his speech at the anniversary luncheon of the Institute of Transport, reported in our last week's issue.

Mr. Sewill said that the Association welcomed the fact that the Parliamentary Secretary and the Ministry appreciated that a considerable amount of effort had gone into the preparation of the Road-Rail proposals submitted to the Minister in July of this year. It appeared, however, that the Parliamentary Secretary and his advisors had not grasped the full implication of these proposals.

The industry had stressed repeatedly the fact that it was non-political and that its opposition to the Government's proposals was based on economic facts and not on any doctrinaire policy. Mr. Strauss seemed naturally to assume that the public ownership of transport would solve all the problems which he admitted existed. The industry's point was that those problems would remain, and the Parliamentary Secretary, so far from explaining how the Labour Party's policy would solve them, confined himself to criticising the recent Road-Rail memorandum and all previous efforts in this direction, with a misunderstanding of their real purport.

Mr. Strauss quoted Lord Leathers in October, 1943, as expressing the view that the square deal proposals did not go to the root of the problem and seemed to imply that this Conservative Minister (as he calls him), "a man" who he himself admits, "of great judgment and an acknowledged authority on transport problems," advocated public ownership as the only solution to the problem. Nothing could be further from the truth. When the Road Haulage Association representatives were asked by Lord Leathers, in the summer of 1945, to discuss with the railways some solution, he indicated that in his view the acceptance of a greater measure of public service obligations by road hauliers would be one of the greatest factors contributing towards co-ordination. The acceptance of these obligations was one of the most outstanding features of the recent proposals.

It implied ignorance of the far-reaching character of the new proposals to suggest that they went no further than the square deal. For instance, the 1939 square deal had never envisaged anything approaching the recent proposals for the pooling of local collection and delivery services; or the supply of railway wagons exclusively to road hauliers on long-distance road services which, together with the far-reaching obligations accepted by the industry, both as individual firms and collectively, left the square deal proposals far behind.

Mr. Strauss had some difficulty with "road factors." A perfectly satisfactory answer had been given at the National Road Transport Federation conference at Margate, namely, that it is difficult to distinguish between road factors and road costs. Road factors were simply the factors affecting road transport costs. The significance of the new proposal, in so far as rates were concerned, was that for the first time road costs were being recognised as the deciding factors in both road and rail rates for the future, and both sides recognised that the railway companies would have to adjust their rates to road costs, hence the term, "capable of co-relation with the road rates

structure," if they, with the public haulier, were to have any hope of attracting traffic from the "C" licensee. Therein was the root of the matter, about which the Parliamentary Secretary had been careful to withhold any information.

Mr. Sewill pointed out that Mr. Strauss, after talking about the reasonableness of individual rates, had proceeded to say that one could not build a rates structure on such vague terms. Nobody had suggested that one could. He had then proceeded to suggest that if road factors were used, and here he apparently understood what they meant, such a method of calculation would involve drastic changes in the present railway charges system, which might be contrary to the national interest, particularly as they would appear to contemplate changes in the rates for low-grade traffic, including coal and other basic materials. Why did Mr. Strauss expect any such increases? asked Mr. Sewill. It was volume of traffic far more than the level of rates which enabled the railways to show a reasonable turnover on capital. If the country was assured by the Party to which Mr. Strauss belonged that there was to be an expanding economy, no slumps, and full employment, it was surely not unreasonable to look forward to a completely different traffic system to that which both road and rail experienced between the two wars.

If the railway rating system according

to the Labour Government, was to be forcibly retained on the value basis, no alternative faced it but the rigid restriction of the "C" licence holder—any other course was impossible—and it was for the reason that both sides faced the desirability of the "C" licence holder having complete freedom that the Road-Rail memorandum recognised the inevitability, under these conditions, of road and rail rates approximating closely to the costs of the trader carrying his own goods in his own vehicles. Unless the Government faced a ship-wreck of its State monopoly from the commencement, it had to confine the "C" licensee to a very narrow radius of operation.

The Parliamentary Secretary appeared to think that the mere transfer to public ownership was going to relieve him and his colleagues of all road-rail further problems. Surely the National Board still would be faced with what to charge and how to charge and what best to charge. Should road rates be based on road costs and rail rates on rail factors? If this was the case, the roads of the country would become even more congested and the railways will fall into desuetude. Or were we back on division of function by some superior authority?—an arbitrary division of traffic carried out by some central authority.

Mr. Sewill concluded by saying that there had been the usual dissertation upon the need for a public utility to be activated by public and not private motives, but it was difficult to see how transport could ever be activated by other than the requirements of its customers, which, after all, made up the national interest.

L.N.E.R. Steamer "Arnhem" Launched at Glasgow

History of the Harwich-Hook of Holland service recalled by Sir Ronald Matthews

Sir Ronald Matthews, Chairman of the London & North Eastern Railway Company, and Mr. G. F. H. Giesberger, of the Netherlands Railways Committee of Management, attended the launch of the new L.N.E.R. steamship *Arnhem* by John Brown & Co. Ltd., Clydebank, on November 7. The new vessel was named by the wife of the Netherlands Ambassador. When completed early next year, the *Arnhem* will serve on the L.N.E.R. Harwich-Hook of Holland route.

At a luncheon after the launch, Lord Aberconway, Chairman of John Brown & Co. Ltd., proposed "Success to the *Arnhem* and her owners." He said he believed the ship was the best of all cross-Channel steamers. She was not so large as the *Queen Elizabeth* or the *Queen Mary*, but she had been built with the same attention to the comfort and safety of her passengers and crew as were those two great liners, and with the same skill of design, management, and craftsmanship. Her engines, they hoped, would give the very minimum of vibration, and the very latest in radar sets would enable her navigators to detect every obstacle and every buoy that might keep her safely in the channel.

He hoped that if the building of another vessel for the same service was entrusted to them, it would be for the London & North-Eastern Railway Company and not for the North-Eastern Branch of the British State Railways.

Sir Ronald Matthews, replying to the toast and giving that of John Brown & Co. Ltd., described the ceremony as memorable because it renewed the long and happy association of his company with the great Clydebank firm which had

done so much to uphold the prestige of British shipbuilding all over the world.

They had every reason to be proud of the latest recruit to their Harwich-Continental services, which had been operated by the L.N.E.R., and its predecessor, the Great Eastern Railway, ever since 1863. He took the opportunity of expressing his company's appreciation of the work that had been put into the ship by those responsible for its design and construction. Clydebank was famous all over the world for the craftsmanship and the love which her workpeople put into great ships, and the *Arnhem*, although she was only in the chrysalis stage, would be a worthy representative of Clydebank production.

Sir Ronald Matthews traced the development of the Continental services via Harwich from the sixteenth century, a regular packet service between Harwich and Halvoetsluis having been established in 1661 in wooden "hoys" of 40 to 60 tons; he went on to state that during the first German war no fewer than six Great Eastern steamers were captured or lost by enemy action. There were tragic gaps in the L.N.E.R. fleet after the second world war, and one of them was being filled by the *Arnhem*.

"Her name," Sir Ronald Matthews concluded, "commemorates a splendid feat of arms, but today the wish in the hearts of all of us is that her lawful occasions may always be peaceful ones, and that she may be one of many links to draw ever closer together in trust and friendship the two great nations she is to serve."

The toast was acknowledged by Mr. D. McL. Skiffington, Shipbuilding Director of John Brown & Co. Ltd., Clydebank, who

said the *Arnhem* was not a special vessel, but they knew that every time the London & North Eastern Company built a vessel, it always improved on the standard of accommodation, and this time it had not forgotten that practice. There had been improvements in the passenger accommodation, and the accommodation of the crew had been improved *pro rata*.

He spoke of the happy relationship between the Clydebank and London & North Eastern Railway technical staffs and expressed appreciation of the collaboration of Captain R. Davis, the company's Marine Superintendent, and Mr. J. Payne, the Engineer Superintendent.

Representatives of the London & North-Eastern Railway Company, in addition to Sir Ronald Matthews, who attended the ceremony, were: Mr. W. Whigham (Deputy-Chairman), and Mr. A. H. Bibby, Mr. Andrew McCosh, Sir Samuel Strang Steel, Colonel Sir Harold P. Mitchell, Sir William Gray, Lt.-Colonel the Hon. Arthur C. Murray, and Sir Alexander G. Erskine-Hill (Directors).

Institution of Railway Signal Engineers

At a meeting of the Institution of Railway Signal Engineers in London on October 23, Mr. D. L. Champion, F.R.Met.S., read an instructive paper on "Meteorological Factors concerning the Design and Operation of Railway Signalling Apparatus," illustrated by lantern slides.

Mr. F. L. Castle, Vice-President, who was in the chair in the absence of the President, Mr. H. H. Dyer, just returned from America, dwelt on the Institution's new programme and said that the Council, in view of its success earlier in the year, was contemplating holding a further and more complete series of educational lectures.

Mr. Champion's paper dealt with questions of temperature, rod compensation, frost effects, deposits of rime, sleet and ice and curious phenomena associated therewith, as well as the varied action of snow, rain and wind, and made suggestions for the better design of certain items of equipment, to enable them to function with regularity in adverse circumstances; it contained several informative maps and tables. Lightning was not dealt with, this having been the subject of a paper by Mr. W. Wood, Past-President.

Mr. R. S. Griffiths, opening the discussion by communication, said it was rather strange that they should have had to wait so long for a paper on the question. He thought that the design of balance levers needed improving; at present they offered too much of a tray or ledge on which moisture might collect. Detectors were probably the items of ground equipment most susceptible to derangement by bad weather, and wheels and chains offered opportunities for frost to impede free operation. Was there a greater risk of freezing at the pulleys with stranded wire than with solid wire? It was difficult to know how long apparatus had to remain still for frost to make it seize. It might be possible to operate rods and wires occasionally to keep them free.

Mr. A. J. Drummond, of Kew Observatory, illustrated and explained an interesting form of rain gauge and referred to certain thunderstorm records and the amount of rainfall experienced over a term of years. He also spoke of the effect of water in the ground on cable insulation, the action of salt deposits, and atmospheric action near towns and large cities.

Mr. P. Lomas said that some did not

realise to what extent temperature could prevent reliable working. He had known wires to expand to such a degree that a lever could be fully reversed without moving the signal arm. Then they could have a signal box switching out on a hot day, and a cold spell setting in of such an amount as to cause the wires of signals which happened to be "on" to contract enough to pull them off, and there would be nobody by to detect the trouble. The question of expansion and contraction of air in apparatus cases was important. A mechanism box could get very hot, and a storm coming on would cool it down, leading to moisture being drawn in; that was not expelled, however, when the storm ceased and the sun came out again. The process might repeat itself, and he had seen cases opened and a pint of water run out of them. There was a distinct source of danger in that.

Mechanisms might work under water, but would not do so if it froze. The design of signal arms was important: often they had flat surfaces working together and an ice bridge could form across the joint. Capillary attraction was a source of trouble; some argued that clearances should be so fine that water could not be drawn in, while others advocated making them so slack that there could be no fear of binding, which opened a vast field for argument.

Wing-Commander R. M. Poulter, Senior Meteorological Officer, R.A.F., Uxbridge, thought that signal equipment was particularly exposed to weather influences, compared with some others. The diagrams and maps in the paper were most informative and obviously the result of much painstaking work. They would be useful to meteorologists as well as signal engineers.

Mr. R. Yardley referred to the disturbance of point rodding by snow, discussed in the paper, and instanced cases where a similar effect had occurred without snow being present, after a sharp frost acting on soft ash ballast containing a good deal of water. He thought that the use of P.B.J. insulation on line wires would not solve their troubles. He had seen deposits up to 3 in. dia. on wires, and a bigger matrix could double the area to which sleet and so on could adhere.

Mr. Champion replied to the points raised, and the chairman moved a hearty vote of thanks to him for his valuable contribution to the Institution's proceedings.

Questions in Parliament

Train Services

Viscount Hinchinbrooke (Southern Dorset—C.) on October 31 asked the Minister of Transport whether he was aware that the cancellation of the train which arrived at Easton Station, Portland, Dorset, at 1.45 p.m. was causing inconvenience to residents and tradesmen in the locality; that the daily supplies of fish now arrived at 3.32 p.m., which was too late for afternoon sales and detrimental to its disposal; and whether any action was being taken to improve the service to that station.

Mr. Alfred Barnes (Minister of Transport) stated in a written answer: The train arriving at Easton at 1.45 p.m., which is an addition to the pre-war winter service, has been restored as from Monday, October 28.

Mr. Wilson Harris (Cambridge University—Ind.) on October 31 asked the Minister of Transport whether he was aware that the last fast train from Cambridge to London left Cambridge at 7.7

p.m.; and if he would arrange for a fast train leaving Cambridge not earlier than 9 p.m. to be run to Liverpool Street or Kings Cross.

Mr. Alfred Barnes stated in a written answer: I am informed that when the winter timetable was compiled, consideration was given to the introduction of a fast train from Cambridge to London after 7.7 p.m. The company's resources of staff, locomotives and rolling stock are, however, insufficient to provide such a train at present.

Lt.-Colonel D. C. Walker-Smith (Hertford—C.) on November 4 asked the Minister of Transport (1) when any improvement in rolling stock and timings could be expected in the L.N.E.R. services to Broxbourne and Bishop's Stortford, and in the Great Northern service from Kings Cross to Hertford North; and (2) whether he was aware of constant unpunctuality in the evening trains from Liverpool Street to Broxbourne, Bishop's Stortford, Hertford, and Buntingford; and whether he would take steps to remedy that.

Mr. Alfred Barnes in a written answer stated: I am informed that the average late arrival of the evening trains from Liverpool Street to the places mentioned is between 11 and 12 minutes. The delays are caused almost entirely by poor locomotive performance resulting from lack of normal replacements during wartime and the difficulty of providing adequate maintenance under present conditions. Reconditioning of rolling stock on these services from Liverpool Street and Kings Cross is being carried out as rapidly as possible, but there are heavy arrears to be overtaken and the timings are the best that can be arranged with the limited number of locomotives available.

Railway Passengers' Luggage

Mr. L. D. Gammans (Hornsey—C.) on November 4 asked the Minister of Transport if the regulation restricting passenger luggage on the railways to 100 lb. a person was still in force.

Mr. Alfred Barnes in a written answer stated: Yes.

G.W.R. Halt at Loders

Mr. S. Wingfield Digby (Dorset Western—C.) on November 4 asked the Minister of Transport what decision had been reached about the possibility of making a halt on the Great Western Railway line at Loders, about which he had written to the Minister on June 18, 1946.

Mr. Alfred Barnes in a written answer stated: I am informed that the provision of a halt on the Great Western Railway line at Loders has been approved in principle and a scheme is in course of preparation.

Salford Railway Stations

Mr. E. A. Hardy (Salford South—Lab.) on November 4 asked the Minister of Transport if he was aware that the railway stations of Seedley and Weaste in the city of Salford had been closed in the early days of the war, and when they were likely to re-open.

Mr. Alfred Barnes stated in a written answer: I am informed that Weaste Station was closed on October 19, 1942, owing to reduction in traffic. There is a convenient road service between Weaste and Manchester and there appears to be no justification for re-opening the station at present. Seedley Station has not been closed, but from October 19, 1942, its hours of opening were restricted to cover the morning and evening peak periods of travel. Since October 7, 1946, the hours of open-

ing have been extended to cover the middle of the day from Monday to Friday, and they are now 6.45 a.m. to 6.45 p.m. Monday to Friday, and 6.45 a.m. to 2.45 p.m. on Saturday; but so far no passengers have joined or alighted from the two trains stopping at Seedley during these extra hours of opening.

Oil-Burning Locomotives

Mr. L. D. Gammans (Hornsey—C.) on November 4 asked the Minister of Transport if he was yet in a position to make a statement on the cost of conversion of coal-burning railway locomotives to oil; and what were the comparative running costs.

Mr. Alfred Barnes stated in a written answer: I regret this information is not yet available.

Special Trains for Government Departments

Mr. F. J. Erroll (Altrincham & Sale—C.) on October 29 asked the Minister of Transport if he would state the number of special trains run for each Government department during the most recent convenient statistical period; and the number of passenger-miles and ton-miles so provided for each department.

Mr. G. R. Strauss (Parliamentary Secretary to the Ministry of Transport) stated in a written answer: Particulars of special passenger and freight trains run for Government departments during week commencing October 6 are:—

	War Office	Air Ministry	Admiralty	Ministry of Supply	Total
(1) Number of special passenger trains originating ...	287	40	75	—	402
(2) Total number of passenger-miles ...	8,028,120	616,800	1,144,000	—	9,788,920
(3) Number of special freight trains originating ...	60	20	—	93	173
(4) Total number of ton-miles ...	3,262,886	616,656	—	4,629,804	8,509,346

Sleeping Cars

Mr. F. J. Erroll (Altrincham & Sale—C.) on November 4 asked the Minister of Transport when it would be possible to provide additional sleeping cars, first and third class, on the night trains between Manchester and Euston.

Mr. Alfred Barnes in a written answer stated: I am informed that there are not, at present, sufficient coaches available to provide additional first class sleeping cars between Manchester and Euston. In any event, the night trains are fully loaded and it would be necessary to withdraw a passenger coach. The demand for third class sleeping accommodation is, I am informed, insufficient to justify the running of additional cars.

Exports of Locomotives

Mr. R. A. Butler (Saffron Walden—C.) on November 4 asked the President of the Board of Trade how many locomotives had been exported this year; and of what types.

Mr. H. A. Marquand (Secretary for Overseas Trade): From January to September of this year the numbers of locomotives exported were:—Main line: steam 303, diesel 27, electric 3, contractors' and light 377; making a total of 710 for all types.

Mr. Butler: Is the Minister aware that the grave hold-ups and delays on the main lines out of London leading to Essex—the two main lines—are attributed to locomotive shortages, and will he convey these figures to the Minister of Transport and consult with him whether more locomotives could not be made available for the services of this country?

Mr. Marquand: Yes; I will convey the information to the Minister of Transport, if he needs it, but I would ask Members

to bear in mind how essential these exports are for the obtaining of foodstuffs.

Mr. David Jones (The Hartlepoons—Lab.): Will the Minister ask the railway companies to use the locomotives they have already got?

Mr. R. R. Stokes (Ipswich—Lab.): Is it not a fact that it is a shortage of carriages and wagons on three of the railways, and not a shortage of locomotives at all?

Mr. Marquand did not reply to these questions.

Road & Rail Appeal Tribunal

Wing-Commander N. J. Hulbert (Stockport—C.) on November 4 asked the Minister of Transport if he was now able to announce the constitution of the Appeal Tribunal, for the appointment of whose three members he was responsible under clause 15 of the Road & Rail Traffic Act, 1933, the Chairman only of which he had appointed in August.

Mr. Alfred Barnes stated in a written answer: I regret that I am not yet in a position to announce the names of the members, other than the Chairman, of the Appeal Tribunal under section 15 of the Road & Rail Traffic Act, 1933, but I hope to do so shortly.

Exports to Brazil

Sir Patrick Hannon (Birmingham, Moseley—C.) on November 4 asked the President of the Board of Trade if he was aware of the demand in Brazil for imported farm implements and machinery,

and that those imports were exempted from import duty in Brazil with reduced freight rates on federal-owned railways; and if steps were being taken to accelerate production in this country to meet the needs of the Brazilian market.

Mr. H. A. Marquand: Yes. Every effort is being made by the Minister of Agriculture and the Minister of Supply to encourage increased production of agricultural machinery and implements, both for home and export trade, but essential home requirements must have preference.

Class Travel on Railways

Mr. T. Driberg (Maldon—Lab.) on November 4 asked the Minister of Transport if, when making plans for the nationalisation of railways, he would consider abolishing the present system of first and third class travel and replacing it by a system, based on need and service, under which first class accommodation would be allocated, without extra charge, to such categories of persons as pregnant women, the disabled, and senior officials travelling on public business.

Mr. Alfred Barnes stated in a written answer: No. Problems of this character must be left for examination by those who will be responsible for operating the railways under nationalisation.

Slip Carriages

Squadron-Leader M. C. Hollis (Devizes—C.) on October 31 asked the Minister of Transport whether he would re-introduce the slip-carriage system on those lines where it had been in operation before the war.

Mr. Alfred Barnes, in a written answer, stated: In the winter of 1938-39 the Great Western Railway had 14 slip-carriage services operating in the down direction and

eight in the up direction. The London & North Eastern Railway had two slip-carriage services. So far, the Great Western Railway has been able to restore three slip-carriage services in the down direction and three in the up direction.

Machine Tool Makers

Lt.-Colonel G. M. Sharp (Spenn Valley—Lab.) on October 8 asked the Minister of Labour what action was being taken to increase the supply of machine tool makers.

Mr. G. A. Isaacs (Minister of Labour & National Service): The remedy in the long run is improved apprenticeship arrangements, and this is under discussion with the engineering industry. An immediate, but temporary, alleviation of the position is to use the services of men who have had appropriate experience in the Forces, and an agreement to do so has been reached.

Repair of Meat and Fish Vans

Major H. R. Spence (Aberdeen & Kincardine Central—C.) on October 28 asked the Minister of Transport how many railway meat and fish vans were parked in sidings on the Aberdeen-Ballater line; how many were awaiting repair; and when those repairs would be effected.

Mr. Alfred Barnes stated in a written answer: At present there are 5 meat vans and 23 fish vans in the sidings on this line awaiting repair. Wagons are removed from the sidings for repair about twice a week.

L.P.T.B. Train-Operating Employees

Mr. W. McAdam (Salford North—Lab.) on October 28 asked the Minister of Transport if he would state the number of adult males and females employed in the train-operating section of the L.P.T.B. at August 31, 1939; and the number employed at the present time.

Mr. Alfred Barnes: There were 6,960 adult males and 96 adult females employed at August 31, 1939; the numbers at present employed are 6,735 and 648, respectively. These figures do not include administrative staff.

Theatre Advertising and L.P.T.B.

Mr. Ernest Davies (Enfield—Lab.) on November 4 asked the Minister of Transport if he would state the reason for the withdrawal of all theatre advertising from the properties of the L.P.T.B.

Mr. Alfred Barnes stated in a written answer: I am informed that about three-quarters of the theatres, mainly in the West End, have withdrawn their advertising because they are unwilling to accept the standard rates applied to other advertisers.

Mr. Ernest Davies (Enfield—Lab.) on November 4 asked the Minister of Transport if he would state the total advertising revenue of the L.P.T.B. derived from theatre advertising in 1938 and 1945, respectively, and the rates charged by the Board for theatre advertising on the corporation's properties in 1938 and at the present time; and what percentage change that represented.

Mr. Alfred Barnes wrote in reply: The information asked for is not readily to hand and will involve an analysis of the Board's records. I will circulate it as soon as it is available.

Siam-Burma Railway Sale

Flying Officer H. W. Bowden (Leicester South—Lab.) on November 6 asked the Secretary of State for Foreign Affairs if he was aware that the Siam to Burma railway, built largely by Allied prisoner-of-war labour, was being sold to the Siamese Government and the proceeds credited to Japanese Reparations Funds;

that that had caused dissatisfaction to ex-prisoners of war; and if he would take steps to see that Japan received no financial benefit from the sale of that railway.

Mr. Hector McNeil (Minister of State) in a written answer stated: The portion of the Burma-Siam railway which lies in Siam has been sold to the Siamese Government for £1,250,000. The equipment used for building this portion consists mainly of equipment looted from Malaya, Burma and the Netherlands East Indies, and the greater portion of the £1,250,000 will consequently be paid to the Governments of these territories. The balance of the proceeds will be paid to the Japanese Reparations Funds. These funds are, however, in no way for the benefit of Japan, but solely for the benefit of the Allies, who propose to recoup themselves out of them for some of the damage done to them by Japan.

Road Policy in Tanganyika

Squadron-Leader Sir Gifford Fox (Henley—C.) on November 5 asked the Secretary of State for the Colonies whether he had approved the present policy of the Tanganyika Government in holding up the development of roads in order to provide protection for the railways, which they operated in that territory.

Mr. Creech Jones (Secretary of State for the Colonies), in a written answer, stated: The road policy of the Tanganyika Government is not directed towards protecting the railways, but to providing facilities to enable the territory's transport needs to be met at the lowest possible cost. The territory's resources are insufficient to meet all requirements immediately, which means, in some cases, that low priority is accorded to road construction in an area already served by rail.

Squadron-Leader Sir Gifford Fox on November 5 also asked the Secretary of State for the Colonies whether he was aware that the industrial areas of Tanganyika, namely, the western provinces, including the diamond area at Shinyanga, the new lead area at Mpanda and the gold area of Geita and Khama at present had no direct road communication with the capital of Tanganyika, and that the construction of such roads had not been undertaken by the Government in view of the competition which would result with the Government railways; and whether steps would be taken to provide such road communication at an early date.

Mr. Creech Jones stated in a written answer: All the places referred to in the question are some 600 miles from Dar-es-Salaam. I am aware that they have no direct road connection with the capital. Such roads, if constructed, would pass mainly through sparsely inhabited country and would in the present circumstances of the territory involve expenditure which can more profitably be directed to more urgent needs.

Transport of Sisal

Squadron-Leader Sir Gifford Fox (Henley—C.) on November 5 asked the Secretary of State for the Colonies whether he was aware that, when shipping was specially called to load sisal in Dar-es-Salaam, the vessels were delayed after arrival for some days owing to the inability of the Tanganyika railways to transport the sisal from up-country; what was the cost of that delay; and what steps would be taken to avoid delay in the future.

Mr. Creech Jones stated in a written answer: My information is that no ships have been especially called to Dar-es-Salaam for the loading of sisal and that on no occasion has the loading of any ship

been delayed owing to the inability of the railway to transport sisal from up-country. The shipping of sisal proceeds *pari passu* with production and the requirements of the Ministry of Supply, and there has been no unmanageable accumulation of stocks.

Transport in Tanganyika

Squadron-Leader Sir Gifford Fox (Henley—C.) on November 6 asked the Secretary of State for the Colonies what steps it was proposed to take in the near future to improve and modernise the existing unsatisfactory passenger and goods transport facilities obtaining on the Tanganyika railways and on the road services which operated there under railway monopoly.

Mr. Creech Jones, in a written answer, stated: For the past three years the Tanganyika railways have carried four times the pre-war passenger traffic and double the pre-war goods traffic—all in pre-war rolling stock.

In these circumstances, some overcrowding of passengers and congestion of goods traffic have been unavoidable. New rolling stock and engines have been ordered. Railway road services were started during the war by using military types of goods vehicles fitted with locally

made bodies. More suitable passenger and goods chassis are now arriving in the territory and long-term requirements are under review.

Squadron-Leader Sir Gifford Fox on November 6 also asked the Secretary of State for the Colonies if he was aware that the majority of passenger and other rolling stock in Tanganyika dated back to the days of German occupation in that territory and that timetables only gave an approximate guide to the day when the train was due to arrive and depart; what complaints had been received; and what steps were being taken to provide better facilities.

Mr. Creech Jones stated in a written answer: No. The facts are that 2 engines out of 58, 10 passenger coaches out of 78 and 57 goods vehicles out of 1,294 date from the time of the German occupation. I am informed that, in spite of the heavy increase of traffic during the last few years and the long distances to be covered, 50 per cent. of the passenger trains arrive on time and the remainder average 25 minutes late. No complaints have been received and no specific action is contemplated beyond ordering two new third class coaches and two engines to replace the two which date from the time of the German occupation.

Southern Railway Ambulance Luncheon and Awards

Fifty doctors from London and Southern England who for many years, and especially during the recent war, have given their services in teaching railway employees the principles of first aid and ambulance work, were the guests of the Southern Railway at a luncheon given at the Charing Cross Hotel on Tuesday last, November 12.

The chairman at the luncheon was Mr. R. M. T. Richards, Traffic Manager, Southern Railway, deputising for Sir Eustace Missenden, General Manager, and many of the principal officers of the company were present, including:—

Messrs. F. C. Bishop, Divisional Superintendent, Southern; G. Bishop, Divisional Superintendent, Western; J. Bridger, Divisional Superintendent, London (Central); J. H. Chitty, Welfare Officer; C. Cock, Chief Electrical Engineer; O. W. Cromwell, Chief Officer for Labour & Establishment; C. F. de Pury, Divisional Superintendent, London (West); F. Gilbert, Deputy Chief Officer for Labour & Establishment; F. I. S. Gill, Divisional Engineer, Eastern; C. Grasemann, Public Relations & Advertising Officer; R. H. Hacker, Continental Superintendent; A. E. Hammett, Commercial Superintendent; C. V. Hill, Divisional Engineer, Southern; C. W. King, Divisional Engineer, London (East); E. F. E. Livesey, Assistant for Development; P. Nunn, Divisional Superintendent, London (East); Lt.-Colonel H. C. Prescott, Chief of Police; D. Sheppy, Divisional Motive Power Superintendent, Eastern; S. W. Smart, Superintendent of Operation; and E. E. Young, London District Freight Superintendent.

After the loyal toast, proposed by the Chairman, the toast of the Southern Railway was proposed by Dr. F. H. Stuttford, Brighton, who paid a tribute to the achievements of the Southern during the war, particularly in regard to the D-Day arrangements. Speaking of first aid work he said it was interesting to recall that as long ago as 1897 the St. John Ambulance Brigade had drawn up competitions with the railway companies.

Mr. R. M. T. Richards, replying, said that before the war the Southern Railway had kept up to date, which was why it was ready for the crisis when it came, and now that the war was over, although there was much to be done before they got back to

their pre-war efficiency, their officers and employees were working together with that aim in view.

The toast of the Southern Railway Ambulance Centre was proposed by Dr. A. C. White Knox, London, to which Mr. J. H. Chitty, Welfare Officer, replied, saying that the Southern Railway had not enjoyed such a celebrated gathering for 50 years. They were grateful that so many had been able to be present on this occasion and he was particularly glad to see with them officials of the unions with whom they had to deal.

In the afternoon there was a ceremony at the Brunswick Hall, Wandsworth, at which Viscountess Mountbatten of Burma, who is Lady-Superintendent-in-Chief of the St. John Ambulance Brigade, presented awards to over 160 men and women employees of the Southern Railway covering almost every grade of railway worker. Among them, Signalmen David Hatt, Redhill, was the recipient of a Meritorious First Aid Certificate for 35 years of service to the first aid movement, while others received 30, 21, 14 and 7 year certificates, and a large number qualified for the 1 to 3 year awards.

At the conclusion of the ceremony, Viscountess Mountbatten was presented with a coffee table by Mr. R. M. T. Richards on behalf of Sir Eustace Missenden, and with a bouquet of flowers by Miss Barbara Chitty, daughter of the Southern Railway Welfare Officer. In acknowledging the gifts, Viscountess Mountbatten expressed her appreciation of the encouragement the Southern Railway had given to the ambulance movement in the past. Her husband had asked her to convey a very special "thank you" from the Combined Operations, of which he was the head, for the magnificent job done by the Southern Railway staff during the difficult days before the invasion of Europe.

Before the visitors and prizewinners adjourned for tea, Mr. O. W. Cromwell, Chief Officer for Labour & Establishment, proposed a vote of thanks to Mr. Richards for presiding, and after tea there was a concert in the Brunswick Hall.

Notes and News

Cost-of-Living Index.—At October 1 the official cost-of-living index figure was 103 points above the level of July, 1914, showing no change as compared with August 31. At October 1, 1938, the cost-of-living index was 55 points above July, 1914.

Night Trains Cancelled in Palestine.—The Palestine Railways on November 7 issued an amended timetable in which all civilian passenger and troop trains running after dark have been suspended. This step was taken after a series of attacks on trains with explosives.

Boiler Inspector Required.—A boiler inspector is required by an oil company in South America. Candidates, who should not be more than 35 years old, must have a thorough knowledge of boilers in general, and also some knowledge of modern type oilfield boilers. For full particulars see Official Notices on page 567.

London Passenger Transport Board.—Applications are invited from suitable candidates for the following temporary positions on the technical staff of the Signal Engineer at Earl's Court Station:—Signalling trainees; temporary draughtsman; junior draughtsman; and technical assistants. For full particulars see Official Notices on page 567.

Southern Railway Dramatic Society.—On December 11, at the Scala Theatre, London, the Southern Railway Dramatic Society will present Rudolf Besier's comedy, "The Barretts of Wimpole Street." Tickets may be obtained from Mr. E. H. Simons, Hon. Secretary, Deepdene Hotel, Dorking. The performance will be in aid of the Soldiers', Sailors' and Air Force Families' Association.

L.N.E.R. Through Connections to Scandinavia.—As from November 18 the L.N.E.R. has arranged a through service to Scandinavia in connection with the Harwich-Hook of Holland steamship service. Through carriages, with restaurant and sleeping cars, will operate between the Hook and Holland and Copenhagen three times weekly in each direction, with connections to Stockholm and Oslo; and later on it is proposed to extend the service to

operate every weekday from London. The connections on the Continent will be made by the new "Scandinavian Express," the introduction of which was announced in the article on the European Timetable Conference in our November 1 issue.

Institution of Heating & Ventilating Engineers' Meeting.—On November 6 at a sessional meeting of the Institution of Heating & Ventilating Engineers, Mr. S. C. Mount delivered a paper entitled "Ventilation and Cooling in London's Tube Railways."

Renovation of Clapham Junction.—Clapham Junction Station, through which 2,500 trains pass every 24 hours, and which was blitzed ten times during the war, is to be renovated at a cost of £12,000. It is the world's busiest junction with 17 platforms covered by 13,900 sq. yd. of roofing.

Institute of Transport Examination Papers.—The question papers for the Institute of Transport examinations set in the years 1944 to 1946 have been reprinted in booklet form, and copies may be had from the Institute, 15, Savoy Street, London, W.C.2. The charges are: associate membership papers 1944-46, 1s., post free; graduateship papers 1944-46, 1s., post free.

F.B.I. Export Conference.—The F.B.I. Export Conference will be held in Central Hall, Westminster, on November 27 and 28. In addition to F.B.I. member-firms, the Institute of Export, and the British Export Trade Research Organisation will be represented officially. The conference will be opened by Sir Clive Bailieu, K.B.E., C.M.G., President of the F.B.I., and its objectives will be outlined by the Chairman of the conference, Mr. Leslie Gamage, M.C., a member of the F.B.I. Grand Council, President of the Institute of Export, and Chairman of B.E.T.R.O. At the first session, the Rt. Hon. Sir Stafford Cripps, M.P., President of the Board of Trade, and the Rt. Hon. Lord Bennett (former Prime Minister of Canada) will speak. At succeeding sessions, Sir John Woods, K.C.B., M.V.O., Permanent Secretary of the Board of Trade; Sir Norman V. Kipping, J.P., Director-General of the F.B.I.; Lt.-Colonel H. B. Rignall, J.P., President of the British Engineers' Association; Mr. E. W. Goodale, C.B.E., M.C., President of the Silk and

Rayon Users' Association; Mr. E. A. Carpenter, J.P., Vice-President of the Manchester Chamber of Commerce; and Sir Frederick Bain, M.C., Deputy-President of the F.B.I., will be the speakers.

Birmingham & Midland Motor Omnibus Co. Ltd.—An interim distribution of £654,000 is to be made on the £1,440,000 ordinary capital of the Birmingham & Midland Motor Omnibus Co. Ltd., out of surplus assets arising from the liquidation of two subsidiaries.

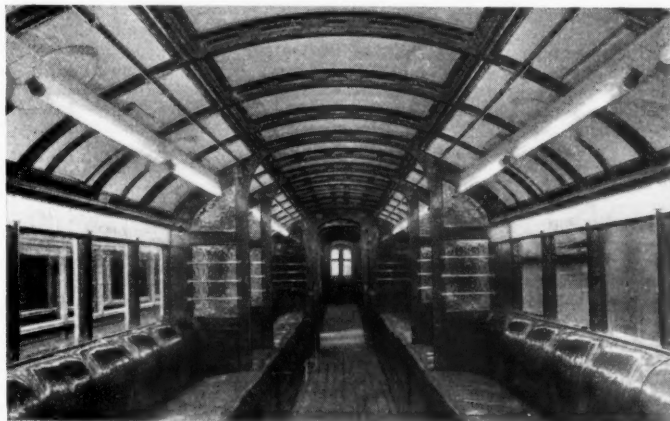
Derailment near Hatfield, L.N.E.R.—The engine and two leading coaches of the 4.45 p.m. express from Newcastle to Kings Cross were derailed just south of Marshmoor signal box, near Hatfield, on November 10. Eight passengers were injured slightly, but all were able to continue their journey in a relief train. All four lines were blocked, and main-line trains were diverted via Hertford North. A bus service for suburban passengers was put into operation between Potters Bar and Hatfield Stations.

London Transport Tube Extension.—The four-mile eastern extension of the Central Line of London Transport from Liverpool Street to Stratford, with intermediate stations at Bethnal Green, and Mile End will open on December 3. At Liverpool Street a new booking hall will give direct access to the Metropolitan Line station, at Mile End there will be interchange facilities with the District Line, and at Stratford with the L.N.E.R. It is hoped that the complete extension to Loughton and Ongar will be finished early in 1949.

Power-Operated Signal Box at Bow Road.—A new power-operated signalling installation has replaced manual signalling at Bow Road Station on the District Line, London Transport. It is part of a modernisation programme being carried out by the Board to provide a more frequent train service when the 143 underground coaches on order are delivered next year. The new box is illuminated by fluorescent lighting, and it contains a power-frame of eleven levers, compared with the 29-lever manual frame in the old installation. Automatically-operated signals between Bow Road and Whitechapel are being replaced by new signals of London Transport standard pattern. The nearby signal box at Whitechapel will be transformed to complete the programme.

Henry Spurrier Memorial Scholarships and Grants.—The council of the Institute of Transport invites, without restriction of age, nationality or sex, applications for the award in August, 1947, of (i) up to five Henry Spurrier Memorial Scholarships of an aggregate value not exceeding £1,250, and (ii) at least five Henry Spurrier Memorial Grants not exceeding £20 each. It is desirable, it is stated, that candidates for the scholarships should have passed the graduateship or associate membership examination of the Institute or some professional or academic examination acceptable to the council. Consideration normally will be given only to applications which involve an aggregate of at least three months absence from the candidates' employment. The scholarships may be awarded to assist in meeting expenses to be incurred in (i) travel for the purpose of studying road transport, (ii) specific projects of research in or in connection with road transport, (iii) full-time study in subjects connected with or ancillary to road transport, at a university or other educational institution approved by the

Fluorescent Lighting on Glasgow Underground



Osram fluorescent daylight lamps in a Glasgow underground carriage. The installation was described in our November 8 issue

council. Grants may be awarded to assist those needing financial aid to advance their education in road transport, in the purchase of books and instruments, the payment of educational fees, and the payment of travelling or other expenses to be incurred for approved educational purposes connected with road transport. Applications must be made on a form to be obtained from the Secretary, Institute of Transport, 15, Savoy Street, London, W.C.2, with whom the completed form must be deposited not later than May 31. Each application must be supported by the candidate's employer or other responsible person having personal knowledge of him, and by a Member (M.Inst.T.) of the Institute, who, by personal contact, has had the opportunity to form an opinion of the suitability of his application.

Smaller Aircraft for Belfast Services.—The British European Airways Corporation announces that it has been decided to revert temporarily to the use of smaller aircraft on services to and from Belfast. For safe operation of the larger types in winter, beam approach landing facilities are necessary, which cannot be installed for technical reasons at the Sydenham Airport, Belfast. By January next year it is hoped that beam approach will be available at Nutts Corner, the alternative airport to Sydenham. Pending delivery of further small aircraft, it is necessary to suspend temporarily the Prestwick-Belfast service.

Projector for 16-mm. Sound Films.—The British Thomson-Houston Co. Ltd., Rugby, has designed a new lightweight 16-mm. projector which will be of interest to clubs and institutions wishing to show instructional films. A high-efficiency optical system, in conjunction with special design of the intermittent mechanism, provides a brilliant picture, free from flicker. The projection unit weighs only 39 lb. and fits into a carrying case which houses also spare lamps, amplifier valves, and other equipment. A second case contains a 12-in. permanent magnet loudspeaker and 50 ft. of flex. The sound amplifier is of completely new design, giving 10 watts undistorted output and having a wide frequency response.

Institute of Transport Silver Jubilee Scholarship.—The council of the Institute of Transport invites applications from members of the Institute for the award in 1947 of the Silver Jubilee Scholarship of a value not exceeding £150. Consideration will normally be given only to applications which involve an aggregate of at least three months absence, in periods of not less than a month each, from the candidate's employment. The purpose of the scholarship is to assist the selected member to meet expenses to be incurred in (i) travel for the purpose of studying transport, or (ii) specific projects of transport research, or (iii) full-time education at a university or other educational institution approved by the council. Candidates must have passed the graduateship examination of the Institute, but preference, it is stated, is likely to be given to one who has passed the associate membership examination and is not over 30 years of age. Applications must be made on a form to be obtained from the Secretary, Institute of Transport, 15, Savoy Street, London, W.C.2, with whom it must be deposited not later than April 30. Each application must be supported by a Member (M.Inst.T.), who, by personal contact,

has had the opportunity to form an opinion of the suitability of the applicant. The member awarded the Silver Jubilee Scholarship qualifies also for the F. C. Coleman Modern Transport Award, the amount of which is £50 a year, on the understanding that it is his intention to follow a career in the world of transport, to assist him in the purchase of books and equipment for the pursuit of his studies.

Kitchen & Wade Limited.—Profits for the year to March 31 were £41,704, compared with £96,466 in the preceding year. This year, however, £13,200 is added from E.P.T. recovery, whereas there was no such addition in 1944-45. A dividend of 25 per cent. is being maintained, and after placing £5,000, against £4,191, to general reserve, the carry-forward of £7,577 compares with £4,191 last year.

New London Transport Map.—The first large wall map of the Green Line services to be printed since 1939 is now displayed at all London Transport Underground stations, roadside shelters, and inquiry offices. Printed in green and black, it gives details of the 26 routes restored since last February. Three hundred coaches operate on these services, running over 640 road miles and extending from Luton to Dorking, Aylesbury to Westerham, and Windsor to Tunbridge Wells. About 260 country towns, villages, and London suburbs are served.

B. I. Callender's Proposed New Factory.—Plans for a large new factory, involving the expenditure of about £600,000, for the further extension of the manufacture of electric cables and other electrical equipment, have been announced by Sir Alexander Roger, Chairman of British Insulated Callender's Cables Limited. Arrangements are stated to be proceeding for the purchase of a 23-acre site on the Kirby trading estate of the Liverpool Corporation. The new factory is to have a floor area initially of approximately 250,000 square feet, and to provide considerable employment in the Liverpool area in addition to the 10,000 persons already employed in the B. I. Callender's factories at Prescott and Helsby.

Railway Freight Rebates.—The Railway Rates Tribunal will sit at 10.30 a.m. on November 26, 1946, at the Office of the Tribunal, Wellington House, 125-130, Strand, London, W.C.2, to review the operation of the Railway Freight Rebates Scheme for the year ended September 30, 1946, pursuant to the provisions of the Railway Freight Rebates Enactments, 1929 to 1943. The railway companies to which the said Enactments apply have filed with the Tribunal an application (1946 No. 562) that there shall be paid out of the Railway Freight Rebates Fund in respect of administrative expenses in respect of the period commenced on October 1, 1946, and ending on September 30, 1947, a sum of £13,250, such sum to be exclusive of any payment out of the said fund authorised by the Minister of Transport under the provisions of sub-section (3) of section 2 of the Railway Freight Rebates Act, 1936; this application also will be heard at the above-mentioned time and place. Any railway company to which the said Enactments apply or representative body of traders interested, which may be desirous of being heard object to the application, must file a notice of such desire, and any person desiring to object to the aforesaid application must file a separate notice of objection, at the Office of the Registrar, Wellington House, 125-130, Strand, Lon-

don, W.C.2, on or before November 21, 1946. Instructions concerning the filing of notices are contained in *The London Gazette* of November 1.

Part Re-Opening of the Elham Valley Line, S.R.—The passenger service on the southern portion of the Elham Valley line of the Southern Railway, from Shorncliffe to Lymington, withdrawn on May 3, 1943, as a wartime measure, was restored on October 7, 1946, on weekdays only. The service on the remainder of the line, from

British and Irish Railway Stocks and Shares

Stocks	Highest 1945	Lowest 1945	Prices	
			Nov. 12, 1946	Rise/ Fall
G.W.R.				
Cons. Ord.	60½	47½	57	- 3
5% Con. Pref.	124½	104½	122½	- 2
5% Red. Pref. (1950) ..	107½	101½	106½	- 1
5% Rt. Charge	137½	120	140½	- 3
5% Cons. Guar.	135½	117	135½	- 2
4% Deb.	118	106	126½	- 3
4½% Deb.	119½	108	128½	- 1
4½% Deb.	124½	111½	130½	-
5% Deb.	138	124	142½	-
2½% Deb.	83	74½	95½	-
L.M.S.R.				
Ord.	33	23½	28	- 2
4% Pref. (1923)	65	50	60½	- 3½
4% Pref.	80½	69½	83	- 3
5% Red. Pref. (1955) ..	106½	99½	105½	-
4% Guar.	106½	97	106½	- 2
4% Deb.	110½	102	116½	- 3½
5% Red. Deb. (1952) ..	110½	103½	108½	-
L.N.E.R.				
5% Pref. Ord.	8½	5½	5½	-
Def. Ord.	4½	2½	2½	-
4% First Pref.	62½	49½	55½	- 4
4% Second Pref.	33½	24½	25½	- 2½
5% Red. Pref. (1955) ..	103	96	104	-
4% First Guar.	104½	95	105	-
4% Second Guar.	97	89½	99½	- 1½
3% Deb.	91½	82½	102	- 2
4% Deb.	109½	101	116½	- 3
5% Red. Deb. (1947) ..	103½	100	99	-
4½% Sinking Fund Red. Deb.	106½	103	107½	-
SOUTHERN				
Pref. Ord.	79½	63	75	- 4½
Def. Ord.	27	20½	21½	- 1½
5% Pref.	124½	104	121½	- 4
5% Red. Pref. (1964) ..	117	107	114½	- 1
5% Guar. Pref.	135½	117	135½	- 2
5% Red. Guar. Pref. (1957)	117	106½	115½	-
4% Deb.	117	104½	125½	- 4
5% Deb.	137	124	139½	-
4% Red. Deb. (1962- 67)	112	104½	113½	-
4% Red. Deb. (1970- 80)	113½	104	115½	-
FORTH BRIDGE				
4% Deb.	106	103	109	-
4% Guar.	106	101	105	+ 1
L.P.T.B.				
4½% "A"	125	117	133½	-
5% "A"	135	127	142½	-
3% Guar. (1967-72) ..	100	97½	108	-
5% "B"	125½	115	128½	-
"C"	70	58	62½	- 2
MERSEY				
Ord.	37	31½	32	-
3% Perp. Pref.	72½	68½	76	-
4% Perp. Deb.	104½	104	117½	-
3% Perp. Deb.	84	78½	93	-
IRELAND*				
BELFAST & C.D.				
Ord.	8½	6	7½	-
G. NORTHERN				
Ord.	34	24½	37	-
Pref.	52½	42½	59	-
Guar.	80	68	92	-
Deb.	97½	87½	104	-
IRISH TRANSPORT				
Common	-	-	19/0½	+ 2
3% Deb.	-	-	104½	+ 1

* Latest available quotation

OFFICIAL NOTICES

LONDON PASSENGER TRANSPORT BOARD. Applications are invited from suitable candidates for the following temporary positions on the Technical Staff of the Signal Engineer at Earls Court Station. Probable duration of employment, two to three years.

ER/E.403 Signalling Trainees. Qualifications to include the possession of the National Certificate in Electrical Engineering, or its equivalent, and preferably some drawing office experience. Training will be given in railway power signalling for a period of three months, at the end of which an examination will be held. Successful candidates will be appointed as Temporary Technical Assistants and will be employed in the production of signalling drawings. Salary, including training period, £250 to £325 per annum plus £72 16s. per annum war advance. It is intended that the training shall commence in November or December, 1946.

ER/E.401 Temporary Draughtsman. Qualifications to include the possession of a National Certificate in Mechanical Engineering, or its equivalent, drawing office experience, including the design of electrical and mechanical components, and ability to prepare improviser sketches. Salary £250 to £325 per annum, according to age and qualifications. Plus £72 16s. per annum war advance.

ER/E.405 Temporary Junior Draughtsman. For the preparation of drawings of enamelled iron and

glass signs and sign cases. Applicants should previously have been employed in a drawing office, and experience of the type of work required would prove to be an advantage. Salary £150 to £220 per annum plus £72 16s. per annum war advance.

ER/E.406 Temporary Technical Assistants. Qualifications to include the possession of the National Certificate in Electrical Engineering, or its equivalent, and preferably some drawing office experience, knowledge and experience of lighting or electrical track equipment on an electric railway third or fourth rail traction system. Experience should include the preparation of estimates and drawings, and association with the installation of cables, cable runs, low tension feeders and lighting systems. Salary £250 to £325 per annum according to age, qualifications and experience, plus £72 16s. per annum war advance.

Applications, giving full particulars of education, business and other experience, professional qualifications and age, should be sent not later than November 30, 1946, to the Assistant Staff Officer (quoting the relative ER/E reference), London Passenger Transport Board, 55, Broadway, S.W.1.

STATION DESIGN. A striking example of modern British practice at the important wayside station of Luton. Reprinted from *The Railway Gazette*, July 7, 1944. Price 1s. Post free 1s. 2d.

CIVIL ENGINEERING ASSISTANTS (Senior and Junior) experienced in surveying and levelling, design of structures, railway layouts, contract documents and bills, etc., required by Main Line Railway Company.

Engagements on temporary basis at from £7 7s. to £10 10s. per week, plus War Advance (at present 28s. per week) according to qualifications and experience. Applications, stating age, experience, etc., with copies of recent testimonials to Box No. 29, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

REQUIRED by Major Oil Company in South America, Boiler Inspector for refinery and oil-field boilers. Candidates must have thorough knowledge of boilers in general, also some knowledge of modern type oilfield boilers, be prepared to train and supervise boiler repair crews and make internal inspections. Age limit 35 years. Successful candidate would be offered 3 years' contract with prospect of permanency, free passage to and from Venezuela on completion of contract, £75 outfit allowance and a salary depending on age and experience from £900 per annum. Selected candidates required to attend London for interview and medical examination as to fitness for tropical service. Apply in writing, stating age and full details of education, qualifications and experience to Box ZE.615, DEACONS ADVERTISING, 36, Leadenhall Street, E.C.3.

Lyminge to Canterbury, which was suspended on December 1, 1940, has not yet been restored.

Institute of Travel Agents Luncheon.—The annual luncheon of the Institute of Travel Agents, to be held at the Waldorf Hotel on November 20, will be attended by about 185 guests, including the Rt. Hon. A. Creech Jones, Secretary of State for the Colonies. The functions of the Institute include the promotion of closer co-operation between travel agents and transport undertakings, the adoption of means to increase the demand for travel facilities at home and abroad, and the production of publications deemed desirable to further the objects of the Institute.

New L.M.S.R. Wagons for Roadstone Traffic.—The L.M.S.R. is constructing at Derby Works an initial batch of 100 wagons for the conveyance of coated macadam. These vehicles comprise a standard 12-ton chassis on which are carried four detachable steel skips each of 3 tons capacity. Special lifting and tipping arrangements enable a mobile crane to discharge all four skips off one wagon direct into

a road lorry in 20 min. The new type of wagon was illustrated and described in our May 31 issue. It is intended to work the wagons in complete train-loads from the quarry to the railhead in the neighbourhood where large-scale road resurfacing is being carried out. The first intensive use of the wagons probably will be from the Leicestershire quarrying district.

Ransome & Marles Bearing Co. Ltd.—Mr. F. W. Baker, Chairman, said at the recent annual general meeting of Ransome & Marles Bearing Co. Ltd. that the company's net balance of liquid assets was very substantial, and the fact that they proposed to finance large additions to their manufacturing capacity without an increase of capital indicated the financial strength of the company. This first year since the end of hostilities might not be the most difficult. Many problems of labour and costs, which the present abnormal demand tended to obscure, remained to be solved, and the real test would come when more normal conditions were reached. Quality and price would again decide the placing of business, and it was with this in view that the com-

pany had embarked on a programme of re-equipment and expansion. The meeting approved a final dividend of 12½ per cent., making 20 per cent. for the year.

Abandonment of Darwen Tramways.—The Borough of Darwen Transport Department abandoned its last tramway route (Darwen to Blackburn) on October 5. An interesting commemorative brochure of the occasion was prepared. This line was worked at first with steam traction by the Blackburn & Over Darwen Tramways Company, from April, 1881; it was taken over by the Corporation of Darwen in 1899, and electric traction inaugurated on October 16, 1900.

Air Services to the Continent.—The British European Airways Corporation is carrying out progressive replacement of American "Dakota" aircraft by Vickers "Vikings." As a result, accelerations are being effected in various services to and from the Continent, notably the speed-up of 35 min. on the London-Copenhagen route. "Viking" aircraft are now operating on B.E.A. services from London to Copenhagen, Oslo, Stockholm, Madrid, Gibraltar, Lisbon, and Prague. The "Viking" carries 21 passengers with a cruising speed of 210 m.p.h. at 10,000 ft. It is expected that 31 of these aircraft will be in operation on B.E.A. routes by December this year.

Rail-Road Appeal for Public Inquiry

WHY NATIONALISE TRANSPORT?

- The Government propose to introduce a Bill to nationalise transport.
- The Railways and the Road Hauliers have submitted a plan to the Government which, while securing the co-ordination of freight transport, would leave the traders and the public with complete freedom to use any form of transport including their own.
- The Railways and the Road Hauliers urge that there should be a public enquiry by an impartial tribunal before any Bill is introduced.
- The public are asked to support the demand for an enquiry before being committed to any scheme which might damage irretrievably the country's industrial prosperity.

GWR • LMS • LNER • SR
ROAD HAULAGE ASSOCIATION

Above is reproduced an advertisement which has appeared in the daily press on behalf of the four main-line railways and the Road Haulage Association

Forthcoming Meetings

November 20 (Wed.).—The Permanent Way Institution (London Centre), at the Old Room, Kingsway Hall, Kingsway, W.C.2. "Maintenance Problems on an Indian Railway," 6.30 p.m., by Mr. E. Perfect, M.Inst.C.E.

November 21 (Thu.).—The Institution of Locomotive Engineers, 28, Victoria Street, Westminster, S.W.1, in the Hall of the Institution of Mechanical Engineers, Storey's Gate, London, S.W.1. 5.30 p.m. "A Brief History of the Application of Base-Exchange Water Softeners to Railways," by Mr. A. J. R. Walter, Associate.

November 22 (Fri.).—The Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1. 5.30 p.m. "Continuous Braking of Train," by Mr. Harold Wagborne, M.I.Mech.E., and "Automatic Couplers for Railway Rolling Stock," by Mr. R. I. D. Arthurston, B.Sc. (Eng.), A.M.I.Mech.E.

Railway Stock Market

Home and international political considerations have checked the buoyant tendency in stock markets, although, after an easier trend, British Funds rallied well. Savings Bonds were prominent, partly owing to reinvestment demand following further selling of Local Loans, which are to be repaid on January 5. Leading industrialists encountered moderate profit-taking, but nationalisation groups were generally steady, with further gains in the colliery section. Steel shares were inclined to attract buyers, although Tube Investments moved back on the unchanged 22½ per cent. dividend, which, however, was accompanied last year by a special payment of 10 per cent. from contingency reserve.

Paint shares reacted on further statements regarding the effect of raw materials shortages, and cement shares lost ground after the announcement of lower cement prices. British Aluminium have been firm at 44s. 9d., on news of the Aluminium Wire and Cable Company, formed by British Aluminium, Hawker Siddeley Aircraft, and Tube Investments. A factor which has continued to make for a more cautious attitude in industrial shares was wider recognition of the possibility that E.P.T. may be replaced by some new device designed to limit dividend payments.

After last week's further gains, in which prior charges and senior preference shares were particularly prominent, home rails have lost ground. A variety of reasons was advanced for the reaction. These included the L.M.S.R. statement on the effects of shortages of materials and labour, and also a tendency to await the report of the Charges (Railway Control) Consultative Committee. The opening of Parliament has, of course, brought into the

forefront the Government's intentions in regard to nationalisation, and this has induced a tendency for recent buyers to take profits arising from the good advance in home rails in recent weeks. Selling was not heavy; but, on the other hand, buying interest was reduced considerably this week. Moreover, the view appears to be gaining ground that in some cases prior charges can hardly offer much more scope for capital appreciation, unless there is a further advance in British Funds, which would be expected to result in another upward adjustment in prices of all high-grade investment stocks.

The disposition is to assume that stocks quoted under par such as L.M.S.R. senior and 1923 preference, L.N.E.R. first preference and Southern preferred ordinary, now offer the best possibilities of appreciation; but this will depend on the Government's intentions in regard to nationalisation and the basis on which this is to be carried out. Nevertheless, it would seem that a strong case can still be advanced for the view that these stocks are moderately valued if nationalisation is to be effected on a fair basis for stockholders, and that ordinary stocks also probably are undervalued at current levels.

Great Western ordinary has come back to 57½, compared with 59½ a week ago, the 5 per cent. preference from 126 to 123½, the guaranteed stock has eased from 137½ to 137, and the 4 per cent. debentures lost 1½ at 127. L.M.S.R. ordinary, 30½ a week ago, has now moved down to 28½, the 1923 preference from 63½ to 61, the senior preference from 85½ to 84, while the guaranteed stock lost a point at 107 and the 4 per cent. debentures were 1½ lower at 117½.

Southern deferred receded from 23 to

21½, the preferred ordinary from 78½ to 76, the 5 per cent. preference from 126 to 123, and the 4 per cent. debentures from 128½ to 127, although the guaranteed stock at 136½ was unchanged on balance. London Transport "C," at 63½, moved a point down on balance, but the senior stocks have held recent gains.

L.N.E.R. stocks continued to move closely with the general tendency, the first preference being 56, compared with 59½ a week ago, while the second preference receded from 28 to 26. L.N.E.R. first guaranteed went back from 107 to 105½, and the second guaranteed from 101 to 100½; the 4 per cent. debentures were 117½ compared with 118½, and at 102½ the 3 per cent. debentures have lost a point.

Argentine rails, after moving back further, attracted speculative demand, debentures being favoured in some cases on yield considerations, although ordinary stocks have been on offer. Buyers generally were again showing a tendency to await news of the decision as to the capital of the new Argentine company. Moreover, the forthcoming annual reports can be expected to contain much up-to-date information which may help the market in assessing the probable value of individual stocks. Buenos Ayres Great Southern ordinary was no better than 12½, but later, the 5 per cent. preference rallied to 41, and there was buying of Buenos Ayres & Pacific debentures, the 4 per cent. rallying to 86½ and the 1912 debentures to 61½. Elsewhere, San Paulo ordinary came into renewed favour on "break-up" estimates, and compared with a week ago, has advanced from 104 to 114. Antofagasta preference held their recent improvement to 52, and Canadian Pacifics were fractionally better at 18½.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ended	Traffic for week		No. of Week	Aggregate traffic to date			Shares or Stock	Price.		
			Total this year	Inc. or dec. compared with 1944-5		Totals		Increase or decrease		Highest 1945	Lowest 1945	November 12, 1946
						1946-7	1945-6					
			£	£		£	£	£				
Antofagasta ...	834	3.11.46	31,340	+ 8,610	44	1,477,930	1,299,460	+ 178,470	Ord. Stk.	12-	8½	11
Arg. N.E. ...	753	2.11.46	ps.283,900	+ ps.10,400	18	ps.5,601,500	ps.5,505,300	+ ps.96,200	"	10	5½	17
Bolivar ...	174	Oct., 1946	4,543	+ 71	43	42,552	48,577	- 5,625	6 p.c. Deb.	8½	5½	6½
Brazil ...									Bonds	25	17	29½
B.A. Pacific ...	2,771	2.11.46	ps.2,355,000	+ ps.149,000	18	ps.39,533,000	ps.35,790,000	+ ps.3,743,000	Ord. Stk.	7	5	7½
B.A.G.S. ...	5,080	2.11.46	ps.3,060,000	+ ps.325,000	18	ps.57,847,000	ps.54,718,000	+ ps.3,129,000	Ord. Stk.	13½	10½	13
B.A. Western...	1,924	2.11.46	ps.1,255,000	+ ps.30,000	18	ps.21,547,000	ps.20,294,000	+ ps.1,253,000	"	12½	9½	16
Cent. Argentine	3,700	2.11.46	ps.3,124,200	+ ps.277,350	18	ps.55,705,825	ps.54,513,450	+ ps.1,271,575	"	9½	7	10
Do.									Dfd.	5	2½	5
Cent. Uruguay ...	970	3.11.46	44,127	+ 7,347	18	643,827	622,896	+ 20,931	Ord. Stk.	7½	4	8½
Costa Rica ...	262	Aug., 1946	36,220	+ 4,160	9	73,313	63,153	+ 10,160	Stk.	16½	13	11
Dorada ...	70	Sept., 1946	23,100	- 6,700	39	279,875	273,135	+ 6,740	1 Mt. Deb.	103	102	102½
Entre Rios ...	808	2.11.46	ps.378,600	- ps.60,100	18	ps.7,445,400	ps.7,548,000	- ps.103,400	Ord. Stk.	7½	4½	7
G.W. of Brazil ...	1,030	2.11.46	34,900	+ 3,500	44	1,247,100	1,087,400	+ 159,700	Ord. Stk.	30-	23.6	22-
Inter. Ctl. Amer.	794	S sept., 1946	8721,193	+ 8105,470	39	88,024,842	86,667,641	+ 81,157,201	"			
La Guaira ...	22½	Oct., 1946	4,672	- 1,463	43	56,641	62,380	- 5,739	5 p.c. Deb.	78	70	60
Leopoldina ...	1,918	2.11.46	72,332	+ 2,640	44	2,662,936	2,338,355	+ 324,581	Ord. Stk.	4½	3½	4
Mexican ...	483	31.5.46	ps.1,464,000	+ ps.459,100	22	ps.7,706,200	ps.13,441,600	+ ps.5,220,200	Ord. Stk.	4	4	4
Midland Uruguay	319	Sept., 1946	21,697	+ 2,970	13	61,668	55,661	+ 6,007	"			
Nitrate ...	382	31.10.46	10,293	+ 457	13	178,186	155,922	+ 22,264	Ord. Sh.	75.6	67.6	72.6
N.W. of Uruguay	113	Sept., 1946	6,013	+ 1,441	13	178,186	155,922	+ 22,264	"			
Paraguay Cent.	274	1.11.46	650,532	+ 61,358	18	61,092,091	61,088,290	+ 3,801	Pr. Li. Stk.	79½	77	73½
Peru Corp. ...	1,059	Oct., 1946	153,237	+ 11,145	17	629,700	564,925	+ 64,775	Pref.	10½	7½	8½
Salvador ...	100	Aug., 1946	c108,000	+ c14,000	9	c190,000	c189,000	+ c1,000	"			
San Paulo ...	153½								Ord. Stk.	60½	50½	11½
Taltal ...	156	Oct., 1946	6,895	+ 3,870	18	20,155	9,690	+ 10,465	Ord. Sh.	17-	10.6	22.6
United of Havana	1,301	2.11.46	40,990	+ 6,315	18	919,506	812,981	+ 106,525	Ord. Stk.	3	1	1½
Uruguay Northern	73	Sept., 1946	1,203	- 442	13	3,809	5,042	- 1,233	"			
Canada												
Canadian National	23,482	Sept., 1946	8,607,000	- 252,500	39	72,529,500	81,830,000	- 9,300,500	Ord. Stk.	24	14½	18
Canadian Pacific	17,037	31.10.46	2,344,000	- 165,500	43	60,332,000	66,581,750	- 6,010,750	"			
Various												
Barsi Light†	202	Sept., 1946	15,112	- 1,500	26	144,427	131,265	+ 13,162	Ord. Stk.	131	123	113½
Beira ...	204	Aug., 1946	92,426	+ 16,315	48	859,846	846,863	+ 12,983	"			
Egyptian Delta	607	7.11.46	21,119	+ 2,295	31	351,538	327,013	+ 24,525	Pr. Sh.	10	8½	5
Manila ...									B. Deb.	71	55½	66
Mid. of W. Australia...	277	Sept., 1946	18,676	+ 2,858	13	48,623	45,288	+ 3,335	Inc. Deb.	97½	85	70
Nigeria ...	1,900	Sept., 1946	355,942	+ 105,149	26	2,251,155	1,316,308	+ 934,807	"			
Rhodesia ...	2,445	Aug., 1946	484,152	+ 21,858	48	5,633,516	5,552,568	+ 80,948	"			
South African	13,323	5.10.46	1,270,855	+ 256,096	27	30,200,758	26,869,976	+ 3,330,782	"			
Victoria ...	4,774	May, 1946	1,351,280	+ 4,246					"			

† Receipts are calculated at 1s. 6d. to the rupee